# TAPR Digital Signal Processing Special Interest Group Archive, January 1998 through December 1999

January 1998 through December 1999

TAPR's forum for digital signal processing in amateur radio and digital communications, including DSP processors and development boards, algorithms, modems, software, hardware, and projects such as the TAPR/AMSAT DSP-93.

This volume contains 24 original monthly files and 1,137 messages, arranged chronologically. The PDF is a readable access copy: MIME transfer encodings are decoded, HTML bodies are converted to plain text, and non-text attachments are represented by descriptive notes. The raw source text is supplied separately with the Internet Archive item.

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# January 1998

Original source file: dsp.9801
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/dspsig/mail_archive/dsp.9801

## 1. A/D suggestions

From: Charles Brain <chbrain@dircon.co.uk>
Date: Tue, 06 Jan 1998 16:38:51 +0000
To: "dsp@tapr.org" <dsp@tapr.org>
Message-ID: <34B25E1B.BD5EE6C5@dircon.co.uk>
Rendered body type: text/plain

Hello,

Does anyone have a suggestion for a suitable A/D converter.

I have built a DSP based DC receiver going and am having difficulty
getting more than about 40db un-wanted sideband suppression.
So I want to try bandpass sampling at I.F instead.

I require the following

1) Easy to interface to the 56002 EVM
2) at least 100k samples/s
3) No anti-alias filter / or one that can be disabled
4) At least 14 bit precision, prefer 16.

Anyone got any suggestions ?

- Charles G4GUO

## 2. Re: [DSP:737] A/D suggestions

From: Rob Frohne <frohro@wwc.edu>
Date: Tue, 6 Jan 1998 10:02:35 -0800 (PST)
To: dsp@tapr.org
Message-ID: <199801061802.KAA20843@adams.wwc.edu>
Rendered body type: text/plain

Hi Charles,

I read your post with interest.  I am wondering how you did you
DC based receiver.  I have an article coming out in QST in April
about using Rick Campbell's (KK7B) R2 receiver with a DSP demodulator
using the 56002EVM.  I was able to get between 40 and 50 db
opposite sideband rejection.  I think the analog components
are the big problem.  I would have liked 18 bits on the A/D
converter though to improve the blocking dynamic range which
was actually pretty good anyway.

73,

Rob, KL7NA/W7

> Hello,
> Does anyone have a suggestion for a suitable A/D converter.
> I have built a DSP based DC receiver going and am having difficulty
> getting more than about 40db un-wanted sideband suppression.
> So I want to try bandpass sampling at I.F instead.
> I require the following
> 1) Easy to interface to the 56002 EVM
> 2) at least 100k samples/s
> 3) No anti-alias filter / or one that can be disabled
> 4) At least 14 bit precision, prefer 16.
> Anyone got any suggestions ?
> - Charles G4GUO

## 3. Re: [DSP:738] Re: A/D suggestions

From: Charles Brain <chbrain@dircon.co.uk>
Date: Tue, 06 Jan 1998 18:57:01 +0000
To: dsp@tapr.org
Message-ID: <34B27E7D.699DDBCC@dircon.co.uk>
Rendered body type: text/plain

Rob Frohne wrote:
>
> Hi Charles,
>
> I read your post with interest.  I am wondering how you did you
> DC based receiver.

Hello Rob,

Well I used an AD9850 DDS chip driven from the parallel port of the EVM to generate the LO. This was divided by 4 using 74HC chips to get the quadrature signal. The mixers uses 4066 Analogue switches. I am going to use 74HC4053s in MkII.

The Radio can receive USB/LSB/ISB and CW. I am thinking of putting in other
modes like FSK and MSK, but later. Also I was thinking about using the DDS for
frequency hopping as well.

The DSP code uses the phasing method. AGC is implemented using an Algorithm
similar to that describe in Frerking, I control the gain of the amplifier
block in the codec and a digital 'gain' control in the code itself.

In ISB mode the same AGC is applied to both channels. Filters are stored on the
host P.C and when selected downloaded into the radio. This allows me to have
as many filters as I want without using up all the ROM space. A basic SSB and CW
filter is stored in the ROM, but all other bandwidths are P.C based, it takes about
1/2 sec to download a new filter. It is quite eiry listening as the filter coefficients
change.
I can also change the AGC threshold/attack/decay from the P.C.
The P.C program is a crude DOS based one using the function keys as soft keys.

Thats all there is to it !

> I was able to get between 40 and 50 db

Yes I read a paper written by a guy at GEC-Marconi and he said that is about all you can get without a complex calibration routine.

> opposite sideband rejection.  I think the analog components
> are the big problem.  I would have liked 18 bits on the A/D
> converter though to improve the blocking dynamic range which
> was actually pretty good anyway.
>

Yes the more bits the merrier!

> 73,
>
> Rob, KL7NA/W7
>

- Charles G4GUO

---

## 4. Re: [DSP:737] A/D suggestions

From: Alfredo Weltert <alfredo.weltert@galactica.it>
Date: Tue, 06 Jan 1998 20:03:23 +0100
To: dsp@tapr.org
Message-ID: <34B27FFB.16534741@galactica.it>
Rendered body type: text/plain

Hello

Before to change the ADC can you explain how you have built the
receiver, so I can try to help you?

AFW

dsp@tapr.org wrote:

> Hello,
>
> Does anyone have a suggestion for a suitable A/D converter.
>
> I have built a DSP based DC receiver going and am having difficulty
> getting more than about 40db un-wanted sideband suppression.
> So I want to try bandpass sampling at I.F instead.
>
> I require the following
>
> 1) Easy to interface to the 56002 EVM
> 2) at least 100k samples/s
> 3) No anti-alias filter / or one that can be disabled
> 4) At least 14 bit precision, prefer 16.
>
> Anyone got any suggestions ?
>
> - Charles G4GUO

## 5. Re: [DSP:737] A/D suggestions

From: Mike Lindsey <spectrum@ricochet.net>
Date: Tue, 06 Jan 1998 11:25:22 -0800
To: dsp@tapr.org
Message-ID: <34B28522.E9F913BC@ricochet.net>
Rendered body type: text/plain

Hello Charles,

I don't have a suggestion for your A/D converter, however I am very
interested in your project. I have just
completed a design using a Harris HI5703 A/D ( 10 bit, 40msps ) with a
56002 DSP. I am just getting my
"feet wet" with the RF side of things, most of my work involves audio
signal processing and experience
with  direct sequence code and carrier tracking loops. If you have any
technical references concerning direct
conversion receivers you could share with me it would be appreciated.

Mike

Charles Brain wrote:

> Hello,
>
> Does anyone have a suggestion for a suitable A/D converter.
>
> I have built a DSP based DC receiver going and am having difficulty
> getting more than about 40db un-wanted sideband suppression.
> So I want to try bandpass sampling at I.F instead.
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> 4) At least 14 bit precision, prefer 16.
>
> Anyone got any suggestions ?
>
> - Charles G4GUO

## 6. Re: [DSP:738] Re: A/D suggestions

From: forrerj@peak.org (Johan Forrer)
Date: Tue, 06 Jan 1998 11:28:16 -0800
To: dsp@tapr.org
Message-ID: <199801061929.LAA27875@peak.org>
Rendered body type: text/plain

Rob,

>Hi Charles,

>
>I read your post with interest.  I am wondering how you did you
>DC based receiver.  I have an article coming out in QST in April
>about using Rick Campbell's (KK7B) R2 receiver with a DSP demodulator
>using the 56002EVM.  I was able to get between 40 and 50 db
>opposite sideband rejection.  I think the analog components
>are the big problem.  I would have liked 18 bits on the A/D
>converter though to improve the blocking dynamic range which
>was actually pretty good anyway.

Interesting to hear about this development. Seems like the way to go.

I recently completed and have a working DSP receiver IF that I built up from scratch that uses my own programmable mixer/IF front-end. This front-end hardware uses a DDS chip controlled by the DSP that allows any input IF frequency to be used (within reason of course). Presently I tap my ICOM receiver's 350 kHz IF for a signal source and have the first DSP IF run at 15 kHz.

The idea is to eventually implement some ideas found in modern tranceivers; mix up to a high first IF (in the 40 MHz range), then down to low second IF (in the 500 kHz range) - the DSP IF then takes it down two more IF stages (one at 15kHz and the final down to audio). Eventually a panoramic display and digital modems will be added to make it a complete digital package.

Presently I am also using a 40 MHz 56002 EVM, but plan on migrating the code to a recently-acquired 66 MHz 56302 EVM in order to utilize additional compute capabilities and extra networking on-chip hardware.

Looking forward to reading your article.

73,

--Johan, KC7WW

## 7. Re: [DSP:741] Re: A/D suggestions

From: Charles Brain <chbrain@dircon.co.uk>
Date: Tue, 06 Jan 1998 19:54:29 +0000
To: dsp@tapr.org
Message-ID: <34B28BF5.81F2583D@dircon.co.uk>
Rendered body type: text/plain

Mike Lindsey wrote:
>
> Hello Charles,
>
> I don't have a suggestion for your A/D converter, however I am very
> interested in your project. I have just
> completed a design using a Harris HI5703 A/D ( 10 bit, 40msps ) with a
> 56002 DSP. I am just getting my
> "feet wet" with the RF side of things, most of my work involves audio
> signal processing and experience
> with  direct sequence code and carrier tracking loops. If you have any
> technical references concerning direct
> conversion receivers you could share with me it would be appreciated.
>
> Mike

Hello Mike,

Well the two books I have are

'Digital Signal Processing in Communication Systems'
Auth Marvin E. Frerking, Pub VNR ISBN 0-442-01616-6

This book is about using digital signal processing to build radios.

The other book is

'Single Sideband Systems and Circuits. 2nd edition'
Pub McGraw Hill, ISBN0-07-912038-5

This book is about the design of professional SSB communications receivers and transmitters. It has a section on DSP and has a few pages on the does and don'ts of DC receiver design. The book although re-published in 1995 is out of print. I managed to get a copy from Amazon.com.

Both the above books are written by Rockwell-Collins staffers (or ex-staffers)

- Charles

## 8. Re: [DSP:743] Re: A/D suggestions

From: Ron Kane <rkane@trivalley.com>
Date: Tue, 06 Jan 1998 19:37:42 -0800
To: dsp@tapr.org
Message-ID: <34B2F886.3A39@trivalley.com>
Rendered body type: text/plain

Hi -

I've read but not posted until now.  Analog Devices has a number of
A/Ds running up around 50 Msps and with 12-14 bits, I have a 12-bit
version on an evaluation board but have not tested it yet - sometime in
the next 2-3 weeks I will.  I've worked with the 10-bit 70 Msps units.

Also, if you're interested take a look at

http://www.graychip.com

This site is a "fabless" IC design company making some parts that might
be interesting but expensve.  I  make digital tuners and receivers and
use these ics in the products, they're too costly for hobby use at the
current time.  You can see what's close to the state of the art (?) by
checking out:

http://www.tera-research.com/terawdc

Look under the Tuner and Receiver products area.  These are too
expensive for this to be a sales pitch but one of the chip designers
and I are talking about some new ones that could be interesting for
us as Hams.

Ron Kane, WA6TGF

## 9. Assembly code converter

From: RLANIER@mailb.harris.com (RLANIER)
Date: Fri, 9 Jan 1998 09:00:51 -0500
To: dsp@tapr.org
Message-ID: <0000D84E.1702@mailb.harris.com>
Rendered body type: text/plain

Does anyone know of a software tool that will convert one assembly
source code into another (i.e. Motorola to TI) ? I would like to use
the (somewhat) new SHARC DSP from Analog Devices. I prefer this chip
over the Moto part and most of the TI parts.

Also, and probably better way, would be to convert the assembly into C
and then make the necessary changes to port the code to another part.
I would like to experiement with the current software that has been
developed, but use a different DSP.

Any thoughts?

Tony   KE4ATO

## 10. Unsubscribe

From: Don.Herbst@knox.pcec.philips.com
Date: Fri, 9 Jan 1998 11:11:38 -0500
To: dsp@tapr.org
Message-ID: <85256587.0058D4FA.00@kx2.knox.pcec.philips.com>
Rendered body type: text/plain

How would I Unsubscribe to this mailing list?
Thanks Don Herbst

## 11. Re: [DSP:745] Assembly code converter

From: forrerj@peak.org (Johan Forrer)
Date: Fri, 09 Jan 1998 09:04:03 -0800
To: dsp@tapr.org
Message-ID: <199801091705.JAA06522@peak.org>
Rendered body type: text/plain

Hello Tony,

I am not aware of any good way to do this .... there is a program available
that can convert some TMS320 stuff to Motorola code though. I have not used
it and fear that these architectures are so different that it probably would
be a messy translation, if possible at all.

In my consulting work, I often develop stuff on the Motorola because then I
can use the nice debugging facilities. The application then gets ported to
the AD or other platforms afterwards when I am certain that I have a working
solution. Of course, when it involves the SHARC processor, that  is
something totally different that gets developed from beginning to end on
that platform.

I would encourage the use of assembly language - it is a little intimidating
in the beginning, but if you just stick with it, you will become quite
proficient. The newer crop of DSPs like the new TI 600 series and the SHARC
are now making programming DSP applications in C possible, though, more
often than not, does require some assembly-language work.

Since you prefer working with the SHARC, why not get to know the machine and
the assembler by using the software simulator - you will not be sorry that
you invested that time and effort.

Hope this helps.

--Johan

> Does anyone know of a software tool that will convert one assembly
> source code into another (i.e. Motorola to TI) ? I would like to use
> the (somewhat) new SHARC DSP from Analog Devices. I prefer this chip
> over the Moto part and most of the TI parts.
>
> Also, and probably better way, would be to convert the assembly into C
> and then make the necessary changes to port the code to another part.
> I would like to experiement with the current software that has been
> developed, but use a different DSP.
>
> Any thoughts?
>
>
> Tony   KE4ATO
>
>

## 12. Re: [DSP:747] Re: Assembly code converter

From: RLANIER@mailb.harris.com (RLANIER)
Date: Fri, 9 Jan 1998 16:35:16 -0500
To: dsp@tapr.org
Message-ID: <0000EC69.1702@mailb.harris.com>
Rendered body type: text/plain

Hi Johan,

I would prefer NOT to work with assembly simply because I have to learn a new
language. Its true that using assembly can be more efficient, but with the new
crop of C compilers coming out, I would say that is not (quite) a true statement
anymore.

I will definitely get to know the SHARC processor more and hope to develop a
high-level HF modem with it. Until then .....

Tony

> Hello Tony,

> I am not aware of any good way to do this .... there is a program available
> that can convert some TMS320 stuff to Motorola code though. I have not used
> it and fear that these architectures are so different that it probably would
> be a messy translation, if possible at all.

> In my consulting work, I often develop stuff on the Motorola because then I
> can use the nice debugging facilities. The application then gets ported to
> the AD or other platforms afterwards when I am certain that I have a working
> solution. Of course, when it involves the SHARC processor, that  is
> something totally different that gets developed from beginning to end on
> that platform.

> I would encourage the use of assembly language - it is a little intimidating

> in the beginning, but if you just stick with it, you will become quite
> proficient. The newer crop of DSPs like the new TI 600 series and the SHARC
> are now making programming DSP applications in C possible, though, more
> often than not, does require some assembly-language work.

> Since you prefer working with the SHARC, why not get to know the machine and
> the assembler by using the software simulator - you will not be sorry that
> you invested that time and effort.

> Hope this helps.

> --Johan

## 13. Feldhell program uploaded to ftp.tapr.org

From: Douglas Braun <dbraun@ichips.intel.com>
Date: Tue, 13 Jan 1998 19:13:19 +0200
To: dsp@tapr.org
Message-ID: <199801131713.JAA04750@dtthp135>
Rendered body type: text/plain

Hello all,

I just uploaded some stuff to ftp.tpar.org:

```
   evmhl103.zip          Feldhell program for Win95 and EVM
   dl32.zip              Win32 version of DL.EXE (the EVM downloader)
```

Once Tim can get a chance to move these, you should be able to
download them from:

```
  ftp.tapr.org: /tapr/SIG/dsp/recent_uploads
```

Doug
SV/N1OWU

## 14. dsp speech recognition

From: "Don Elsner" <elsner@alpha1.csd.uwm.edu>
Date: Thu, 15 Jan 1998 06:57:11 -0600
To: <dsp@tapr.org>
Message-ID: <199801151258.GAA15183@batch1.csd.uwm.edu>
Rendered body type: text/plain

Hi-

I am taking a software engineering course and would like to do speech recognition using the Motorola DSP56002EVM or the Analog Devices EZ Kit-Lite.  Does anyone have any code, GOOD book references, etc?

thanks  -  Don Elsner KS9F

elsner@csd.uwm.edu

## 15. Pathway Summit News Brief

From: dspnews@dspnet.com (by way of Greg Jones, WD5IVD)
Date: Fri, 16 Jan 1998 09:49:27 -0600
To: " TAPR/AMSAT DSP "<dsp@tapr.org>
Message-ID: <v03130311b0e531ffb2d5@[208.134.134.40]>
Rendered body type: text/plain

White Mountain DSP, Inc., the leading provider of hardware
and software development tools for digital signal processors
(DSPs), is now shipping the Pathway 2xx DSP Starter Kit
(DSK).  This kit is a simple, low-cost, stand-alone
application board for the Texas Instruments (TI) TMS320C2xx
Flash DSP family. The Pathway 2xx DSK is powerful enough for
real-time signal processing and versatile enough to allow
the user full accessibility to on and off chip peripherals.
In addition, the user is free to interface the DSK to
external designs through the flexible interconnect system to
include a JTAG port for use with 510-series emulators.

The Pathway 2xx DSK has a 20 MIPS TMS320F206 onboard to allow
full-speed verification of code for the entire 2xx family as
well as 32K words of flash memory for high-volume, low-cost
memory integration.  The supplied debugger is windows-oriented,
which simplifies code development and debugging capabilities.

* 32K of on chip Flash with 4.5K of on chip SRAM (544 data space

and 4K of program space)
* Wide band audio analog data acquisition via the TLC320AC02 AIC
  (analog interface circuit)
* Standard RCA connectors for analog I/O that provide direct
  connection to speaker and microphone.
* Program, data and I/O expansion bus for external design
* Standard RS-232 interface for asynchronous serial port operation
* Complete with DSK assembler and GO DSP's Code Explorer for rapid
  prototyping 510 series JTAG interface provided CE Certified

The Pathway 2xx DSK is available for $149 (US). Please contact
your White Mountain DSP Sales Representative for ordering.

FOR PRICING INFORMATION CONTACT:
White Mountain DSP, Inc.
20 Cotton Road
Nashua, NH 03063
Phone: 603-883-2430
Fax: 603-882-2655
E-mail: info@wmdsp.com
Web Site: http://www.wmdsp.com

AVAILABLE FOR IMMEDIATE DELIVERY

## 16. Discontinue

From: David Baldwin <DBALDWIN@novell.com>
Date: Fri, 16 Jan 1998 09:20:41 -0700
To: dsp@tapr.org
Message-ID: <s4bf2690.034@novell.com>
Rendered body type: text/plain

Please send info on how to unsubscribe to this list

## 17. TOR modes for the EVM

From: forrerj@peak.org (Johan Forrer)
Date: Sat, 17 Jan 1998 23:22:24 -0800
To: DSP@tapr.org, HFSIG@tapr.org
Message-ID: <199801180723.XAA02323@peak.org>
Rendered body type: text/plain

Hi all,

I have uploaded EVMPAC3.ZIP to the recent_uploads area for experimenting
with. Look for it at ftp.tapr.org/tapr/SIG/dsp/recent_uploads.

The new version does not need any special RS232 control lines like RTS or
DTR as all communications to and from the EVM is via the SCI port at 19200.
These programs do however require some sort of interface to pull in PTT. I
can recommend using these programs with the N1OWU, DL loader.

The package includes source code for the HF modems for those that need to
modify them for their special hardware arrangements. Seems like a lot of
folks out there are doing their own interfacing.

If you are interested in trying Pactor or Amtor on your EVM, give these a try.

Enjoy!

--Johan, KC7WW

(PS. Tim, could you move the files please. There is some remnants called
EVMPAC2.ZIP that was left after I aborted the upload this morning. You can
safely delete that one.... The net was just too busy. Thanks much!)

## 18. □□: Unsubscribe

From: "chxpei" <chxpei@ns1.xidian.edu.cn>
Date: Sun, 18 Jan 1998 19:28:53 +0800
To: <dsp@tapr.org>
Message-ID: <01bd2404$41b39840$267f75ca@---->
Rendered body type: text/plain

I want to unsubscribe!
thank you

## 19. DSPBOX

From: Alberto di Bene <dibene@usa.net>
Date: Mon, 19 Jan 1998 14:33:46 +0100

To: hfsig@tapr.org, dsp@tapr.org
Message-ID: <34C35639.1A3B1B14@usa.net>
Rendered body type: text/plain

Just a reminder, you can download DSPBOX.ZIP from the following location
:

    ftp://ftp.tapr.org/tapr/SIG/dsp/recent_uploads/dspbox.zip

What is DSPBOX ?
 -------------------------

 DSPBOX is an attempt to code the Texas Instruments DSK 'C50 in such a
way
 to make it behave like a commercial DSP noise reduction unit, like the
 NIR-12, the TimeWave 599+ and others. Not only the noise reduction
function
 has been implemented, but automatic notch, AGC and Band Pass have as
well.

Reports on how you do you like (or not like) it, are welcome.

73s

Alberto, I2PHD

## 20. TMS320C54x DSKplus DSP Starter Kit From Texas Instruments

From: dspnews@dspnet.com (by way of Greg Jones, WD5IVD)
Date: Thu, 22 Jan 1998 23:06:27 -0600
To: " TAPR/AMSAT DSP "<dsp@tapr.org>
Message-ID: <v03130301b0edd5c82ef9@[208.134.134.40]>
Rendered body type: text/plain

TI's 'C54x DSKplus is the most powerful low-cost DSP development tool on
the market and features the 40 MIPS TMS320C542 16 bit, fixed point DSP on a
PC-linkable board.  The DSKplus is a high-performance, low-cost, easy to
use development kit that enables designers to quickly start learning code
development for TI's market leading 'C54x DSPs. The 'C54x DSKplus board
also takes advantage of the 'C542's host port interface, buffered serial
port, and standard serial port for interfacing to a variety of other devices.

What makes the DSKplus so easy to use is a true Windows based debugger,
which provides a visual environment for easier code development.
Created by GO DSP Corp., Code Explorer(TM) is the first Windows based
debugger to be integrated into a low-cost development tool.  Other features
include a graphical user's interface, an algebraic assembler, and symbolic
debugging.

The TMS320C54x DSKplus is priced at US$149 and is available from your local
TI authorized distributor.  Included in the kit is complete documentation
on the DSKplus and the 'C542, as well as a universal power supply and a
parallel port printer cable.  This PC-linkable board includes the 40 MIPS
'C542 DSP with 10K words of Dual-Access RAM and a TLC320AC01 analog
interface chip.

Please contact your local Texas Instruments distributor for a demonstration
or visit the TI web site for more information on the 'C54x DSKplus at:
http://www.ti.com/sc/docs/dsps/tools/c54x/c54xdskp.htm

## 21. Re: [DSP:756] TMS320C54x DSKplus DSP Starter Kit From Texas

From: RLANIER@mailb.harris.com (RLANIER)
Date: Fri, 23 Jan 1998 09:11:59 -0500
To: dsp@tapr.org
Message-ID: <00006AEE.1702@mailb.harris.com>
Rendered body type: text/plain

Why not spend $30 more and get an Analog Devices' ADSP21061
     development kit?   ;)   It's a 32-bit floating point machine and comes
     with a C compiler!


_____________________________ Reply Separator _____________________________
Subject: [DSP:756] TMS320C54x DSKplus DSP Starter Kit From Texas Inst
Author:  dsp@tapr.org at smtp
Date:    1/22/98 11:27 PM


TI's 'C54x DSKplus is the most powerful low-cost DSP development tool on
the market and features the 40 MIPS TMS320C542 16 bit, fixed point DSP on a

PC-linkable board.  The DSKplus is a high-performance, low-cost, easy to
use development kit that enables designers to quickly start learning code
development for TI's market leading 'C54x DSPs. The 'C54x DSKplus board
also takes advantage of the 'C542's host port interface, buffered serial
port, and standard serial port for interfacing to a variety of other devices.

What makes the DSKplus so easy to use is a true Windows based debugger,
which provides a visual environment for easier code development.
Created by GO DSP Corp., Code Explorer(TM) is the first Windows based
debugger to be integrated into a low-cost development tool.  Other features
include a graphical user's interface, an algebraic assembler, and symbolic
debugging.

The TMS320C54x DSKplus is priced at US$149 and is available from your local
TI authorized distributor.  Included in the kit is complete documentation
on the DSKplus and the 'C542, as well as a universal power supply and a
parallel port printer cable.  This PC-linkable board includes the 40 MIPS
'C542 DSP with 10K words of Dual-Access RAM and a TLC320AC01 analog
interface chip.

Please contact your local Texas Instruments distributor for a demonstration
or visit the TI web site for more information on the 'C54x DSKplus at:
http://www.ti.com/sc/docs/dsps/tools/c54x/c54xdskp.htm

## 22. Ezkit Lite Vocoders

From: Charles Brain <chbrain@dircon.co.uk>
Date: Sat, 24 Jan 1998 10:32:32 +0000
To: "dsp@tapr.org" <dsp@tapr.org>
Message-ID: <34C9C340.6801B191@dircon.co.uk>
Rendered body type: text/plain

Hi,

Has any one tried the Lpc2k4 or Lpc7k8 software that comes with the
Analogue Devices EzkitLite?

I notice that some of the assembler modules also include C 'psuedo code'
so it may be possible to port them to other DSP platforms.

This may make the foundation for a simple digital 2m radio, we already
have off the shelf modem technology i.e 9k6.

- Charles G4GUO

## 23. Re: [DSP:757] Re: TMS320C54x DSKplus DSP Starter Kit From Texas

From: "P.A. Sadowski" <sadowski@bellatlantic.net>
Date: Sat, 24 Jan 1998 08:34:47 -0500
To: dsp@tapr.org
Message-ID: <34C9EDF6.92749582@bellatlantic.net>
Rendered body type: text/plain

Why not get on the Motorola DSP "bandwagon" that so many folks here
at the DSP SIG are already involved in.   You get the advantage of a whole
lot of code that's already been tested and in use....   There again maybe
the educational value of working with another DSP architecture is worth
the agony and solitude    ;)  or more appropriately :....(

ALOHA
Paul
AH6LS

RLANIER wrote:

>      Why not spend $30 more and get an Analog Devices' ADSP21061
>      development kit?   ;)   It's a 32-bit floating point machine and comes
>      with a C compiler!
>
> _____________________________ Reply Separator _____________________________
> Subject: [DSP:756] TMS320C54x DSKplus DSP Starter Kit From Texas Inst
> Author:  dsp@tapr.org at smtp
> Date:    1/22/98 11:27 PM
>
> TI's 'C54x DSKplus is the most powerful low-cost DSP development tool on
> the market and features the 40 MIPS TMS320C542 16 bit, fixed point DSP on a
> PC-linkable board.  The DSKplus is a high-performance, low-cost, easy to

YADA....YADA...YADA....

## 24. TAPR EVM interface boards

From: Michael Rudzki <kf8bex@oeonline.com>
Date: Sat, 24 Jan 1998 09:12:31 -0500
To: dsp@tapr.org
Message-ID: <2.2.32.19980124141231.0072b590@mail.oeonline.com>
Rendered body type: text/plain

Hello DSPers,

It's been a while since the message below has been posted.
Has there been any progress on this interface/enclosure kit?

Just wondering.

73

Mike, N8MR
n8mr@amsat.org

At 11:47 AM 9/6/97 -0500, you wrote:
>>Hi All,
>>
>>I have recently been getting a number of e-mails from enthuisiasts asking
>>about the proposed TAPR EVM interface kit - this is what I can tell you
>>about it:
>>
>>I am helping out with testing  a prototype, which looks quite good. The kit
>>consists of two small PCBs - one goes on the front panel and the other fits
>>on the rear panel. Connections are made to the EVM using ribbon cable and a
>>couple of soldered fly leads. You do not need to solder anything onto the
>>EVM, there is an 16-pin IDC header that plugs into J7. The intention is to
>>use the DSP-93 enclosure for which new silk-screened front/rear panels are
>>provided.
>>
>>
>>This is basically all that I know at the moment - please direct further
>>questions about availability and pricing to TAPR.
>
>I think that is about all we have at this point.  We wilkl not have a date
>or price until we get a little further along.
>
>Cheers - Greg
>
>-----
>Greg Jones, WD5IVD
>Austin, Texas
>wd5ivd@tapr.org
>http://www.tapr.org/~wd5ivd
>-----
>
>    "Before you become too entranced with gorgeous gadgets
>     and mesmerizing video displays, let me remind you that
>     information is not knowledge, knowledge is not wisdom,
>     and wisdom is not foresight.  Each grows out of the other
>     and we need them all."            -Arthur C. Clarke
>
>
>

## 25. Update - TAPR EVM interface boards

From: "Steven R. Bible" <srbible@gate.net>
Date: Sat, 24 Jan 1998 11:10:35 -0500
To: dsp@tapr.org
Message-ID: <3.0.1.32.19980124111035.007e4970@pop.gate.net>
Rendered body type: text/plain

Here's an update on the TAPR EVM Interface boards...

Four prototypes of the boards were made.  All work fine.  My unit I put
through the paces on the digital satellites and have it talking to all the
digital satellites (1200 PSK and 9600 FSK).  I also have it talking
terrestrial 1200 AFSK.

Here's the plan: the kit will contain two PCBs, one display board and one
connector board, and all associated part including an enclosure.  We are
redesigning the DSP-93 enclosure to house the PCBs and EVM.  So the kit
will be a complete package to take an EVM and get it on the air.  All you

add is power and connections to your radios.  I'd would like feed back as
to how many would prefer not to have the enclosure, and would rather have
the interface boards to put inside their own enclosure.

Progress: The design of the PCBs is complete.  There are some tweeks that
need to be done before production.  The enclosure is at the Mechanical
Engineers office getting drawings made up for production.  Next will be a
beta phase making sure the kit is sound, no missing parts and the
documentation is correct.  Then full sales go into effect.  There is no
estimated dates set.

Sorry this has taken longer than anticipated.  Please remember, those of us
on the design team have other projects we are involved in (like getting the
most ambitious amateur satellite into space!).  I have pictures and I'll
make up a short web page showing what we have so far.  I think you'll be
pleased.

I am the project manager for TAPR on the EVM Radio interface.  Please
address question to this SIG or to me.  Please be patient.  Thanks.

73,

 - Steve, N7HPR
 (n7hpr@tapr.org)

## 26. free DSP56002 code generator for Matlab

From: "Don Elsner" <elsner@alpha1.csd.uwm.edu>
Date: Sat, 24 Jan 1998 17:06:40 -0600
To: <dsp@tapr.org>
Message-ID: <199801242308.RAA04068@batch1.csd.uwm.edu>
Rendered body type: text/plain

Hi-

I was surfing the Mathworks website and found some signal processing stuff for Matlab version 4.  It includes a code generator for the DSP56002 and thought that it might be of interest to the group.  I have attached a description of the software.  I downloaded it, but had to tinker with the directory structure of the zipped file to unzip it.  It is called dfp .

URL:  http://www.mathworks.com        look under contributed software for version 4    or

ftp://ftp.mathworks.com                        look in /pub/contrib/v4/signal

if anyone has already played with this, I would appreciate your comments.  Thanks-

Don  KS9F

elsner@csd.uwm.edu
[Attachment: Announce.txt; text/plain; 6,382 bytes]

## 27. Re: [DSP:758] Ezkit Lite Vocoders

From: forrerj@peak.org (Johan Forrer)
Date: Sat, 24 Jan 1998 16:26:31 -0800
To: dsp@tapr.org
Message-ID: <199801250027.QAA16610@peak.org>
Rendered body type: text/plain

Charles,

Interesting idea, but like what was asked on COMP.DSP a while ago, has
anyone gotten the demo on these samples to work? When I last tried them, got
no joy. Sounded as if  there was something wrong with the code. Have you had
any luck?

73

--Johan

>Hi,
>
>Has any one tried the Lpc2k4 or Lpc7k8 software that comes with the
>Analogue Devices EzkitLite?
>
>I notice that some of the assembler modules also include C 'psuedo code'
>so it may be possible to port them to other DSP platforms.
>
>This may make the foundation for a simple digital 2m radio, we already
>have off the shelf modem technology i.e 9k6.

>
>- Charles G4GUO
>
>

## 28. Re: [DSP:763] Re: Ezkit Lite Vocoders

From: Charles Brain <chbrain@dircon.co.uk>
Date: Sun, 25 Jan 1998 08:55:16 +0000
To: dsp@tapr.org
Message-ID: <34CAFDF4.BF331837@dircon.co.uk>
Rendered body type: text/plain

Johan Forrer wrote:
>
> Charles,
>
> Interesting idea, but like what was asked on COMP.DSP a while ago, has
> anyone gotten the demo on these samples to work? When I last tried
> them, got
> no joy. Sounded as if  there was something wrong with the code. Have
> you had
> any luck?
>
> 73
>
> --Johan
>
Hello Johan,

I managed to get the code to sort of work. The audio quality was
not very good but understandable, provided you listen to it
long enough.

The main problem seems to be that the voiced/unvoiced detection
doesn't get it right. Also the input level is very very sensitive and
is easy to overload.

I managed to assemble it from the source code. The code encodes
the voice and then stores the various parameters in ram, then does
the decode. The point in the code which says TRANSMISSION LINE is the
place to make the cut for our application.

The LPC7K8 is no better to my ears than the 2K4. I am sure it is not as
good as the LPC-10 based frequency hopping HF manpack radio I had
the opportunity to use a while back. In fact it sounds much like
what happens when some of the channels in the hop set start to be
jammed.

I have been thinking about subband coders using Quadrature Mirror
Filters. I can do a similar thing to what I did on my NBVM
implementation, giving more levels of quantisation to those bands that
hold the main intelligence and leaving out others. According to
my book a SBC will work down to 16kbits/s, it will be interesting to
see what the voice quality is like.

I have found a load of fortan and C code for both LPC and CELP coding,
The CELP coder has a load of '#ifdef TMS030 ' in it! The code
is well documented.

- CharlesJohan Forrer wrote:
>
> Charles,
>
> Interesting idea, but like what was asked on COMP.DSP a while ago, has
> anyone gotten the demo on these samples to work? When I last tried
> them, got
> no joy. Sounded as if  there was something wrong with the code. Have
> you had
> any luck?
>
> 73
>
> --Johan
>
> >Hi,
> >
> >Has any one tried the Lpc2k4 or Lpc7k8 software that comes with the
> >Analogue Devices EzkitLite?
> >

> >I notice that some of the assembler modules also include C 'psuedo
> code'
> >so it may be possible to port them to other DSP platforms.
> >
> >This may make the foundation for a simple digital 2m radio, we
> already
> >have off the shelf modem technology i.e 9k6.
> >
> >- Charles G4GUO
> >
> >

## 29. Re: [DSP:764] Re: Ezkit Lite Vocoders

From: Charles Brain <chbrain@dircon.co.uk>
Date: Sun, 25 Jan 1998 12:50:13 +0000
To: dsp@tapr.org
Message-ID: <34CB3505.96DDE9F1@dircon.co.uk>
Rendered body type: text/plain

> I managed to get the code to sort of work. The audio quality was
> not very good but understandable, provided you listen to it
> long enough.
>

Well I compared it with Phils (KA9Q) LPC-10 demonstration, the
Articulation Index seems about the same. The AD code does have
some artifacts in it that Phils stuff doesn't have. I reckon its
usable.

However it won't make a very good example if you want to persuade
Amateurs to go digital!

If you want to use frequency hopping or need encrypted speech on
HF I think it is good enough!

- Charles

P.S anyone know a good set of coefficients for a QMF filter bank!

## 30. Re: [DSP:761] Update - TAPR EVM interface boards

From: frohro@wwc.edu
Date: Sun, 25 Jan 1998 08:28:26 -0800 (PST)
To: dsp@tapr.org
Message-ID: <199801251628.IAA21569@hood.wwc.edu>
Rendered body type: text/plain

Hi Steve,

I for one would prefer to find my own box.   What is the estimated cost of
the interface boards?

73,

Rob
>
> Here's an update on the TAPR EVM Interface boards...
>
> Four prototypes of the boards were made.  All work fine.  My unit I put
> through the paces on the digital satellites and have it talking to all the
> digital satellites (1200 PSK and 9600 FSK).  I also have it talking
> terrestrial 1200 AFSK.
>
> Here's the plan: the kit will contain two PCBs, one display board and one
> connector board, and all associated part including an enclosure.  We are
> redesigning the DSP-93 enclosure to house the PCBs and EVM.  So the kit
> will be a complete package to take an EVM and get it on the air.  All you
> add is power and connections to your radios.  I'd would like feed back as
> to how many would prefer not to have the enclosure, and would rather have
> the interface boards to put inside their own enclosure.
>
> Progress: The design of the PCBs is complete.  There are some tweeks that
> need to be done before production.  The enclosure is at the Mechanical
> Engineers office getting drawings made up for production.  Next will be a
> beta phase making sure the kit is sound, no missing parts and the
> documentation is correct.  Then full sales go into effect.  There is no
> estimated dates set.
>
> Sorry this has taken longer than anticipated.  Please remember, those of us
> on the design team have other projects we are involved in (like getting the

> most ambitious amateur satellite into space!).  I have pictures and I'll
> make up a short web page showing what we have so far.  I think you'll be
> pleased.
>
> I am the project manager for TAPR on the EVM Radio interface.  Please
> address question to this SIG or to me.  Please be patient.  Thanks.
>
> 73,
>
>  - Steve, N7HPR
>  (n7hpr@tapr.org)
>
>

## 31. Re: [DSP:766] Re: Update - TAPR EVM interface boards

From: "Steven R. Bible" <srbible@gate.net>
Date: Sun, 25 Jan 1998 12:27:01 -0500
To: dsp@tapr.org
Message-ID: <3.0.1.32.19980125122701.007bb690@pop.gate.net>
Rendered body type: text/plain

At 10:31 AM 1/25/98 -0600, you wrote:
>Hi Steve,
>
>I for one would prefer to find my own box.   What is the estimated cost of
>the interface boards?


It's not set yet.  Not until they go to the board shop and we get and
estimate.



 - Steve, N7HPR
 (n7hpr@tapr.org)

## 32. Re: [DSP:761] Update - TAPR EVM interface boards

From: "Donald E. Haselwood" <k4jpj@appstate.campus.mci.net>
Date: Sun, 25 Jan 1998 18:08:40 -0500
To: dsp@tapr.org
Message-ID: <3.0.5.32.19980125180840.0079cb90@appstate.campus.mci.net>
Rendered body type: text/plain

>add is power and connections to your radios.  I'd would like feed back as
>to how many would prefer not to have the enclosure, and would rather have
>the interface boards to put inside their own enclosure.
>73,
...
>
> - Steve, N7HPR
> (n7hpr@tapr.org)
>

I find the enclosure the biggest obstacle for most of my projects.  It
*seems* like it takes more time and effort than the circuitry (probably
because I don't find it "fun").  Quality off-the-shelf enclosures are
getting expensive, and usually not quite the right size, plus they require
punching/drilling/cutting (fingers)/cursing/nuts, bolts, washers, ...  For
the EVM I'd be happy with just the enclosure!  The circuit boards are an
added bonus.

Don, W4DH

## 33. Re: [DSP:761] Update - TAPR EVM interface boards

From: "Brian E. Gaffney" <beg@bellatlantic.net>
Date: Sun, 25 Jan 1998 15:46:50 -0500
To: <dsp@tapr.org>
Message-ID: <002201bd29d2$5f811d10$626fc497@beg>
Rendered body type: text/plain

I would prefer to use my own enclosure.
Brian, WA4VZW
beg@bellatlantic.net

>add is power and connections to your radios.  I'd would like feed back as
>to how many would prefer not to have the enclosure, and would rather have
>the interface boards to put inside their own enclosure.

>
>
> - Steve, N7HPR
> (n7hpr@tapr.org)
>
>

## 34. free DSP code generator for Matlab

From: "Don Elsner" <elsner@alpha1.csd.uwm.edu>
Date: Sun, 25 Jan 1998 15:38:18 -0600
To: <dsp@tapr.org>
Message-ID: <199801252139.PAA12655@batch1.csd.uwm.edu>
Rendered body type: text/plain

Hi-

I guess that my post from Saturday busted, so I will try it again.....

I was surfing the Mathworks website and found some signal processing stuff for Matlab version 4. It is called DFP (digital filter package). It is written for Matlab. It includes a code generator for the DSP56000 and thought that it might be of interest to the group. If anyone has / is already using this package, I would apprciate your comments.

URL: http://www.mathworks.com look under contributed software for version 4 or

ftp://ftp.mathworks.com look in /pub/contrib/v4/signal

if anyone has already played with this, I would appreciate your comments. Thanks-

Don KS9F

elsner@csd.uwm.edu

## 35. Re: [DSP:768] Re: Update - TAPR EVM interface boards

From: Ken McCaughey N3FZX <kenneth@w3eax.umd.edu>
Date: Sun, 25 Jan 1998 22:16:03 -0500 (EST)
To: dsp@tapr.org
Message-ID: <Pine.LNX.3.95.980125221130.222A-100000@w3eax.umd.edu>
Rendered body type: text/plain

On Sun, 25 Jan 1998, Donald E. Haselwood wrote:

> >add is power and connections to your radios. I'd would like feed back as
> >to how many would prefer not to have the enclosure, and would rather have
> >the interface boards to put inside their own enclosure.
> >73,
> ..
> >
> > - Steve, N7HPR
> > (n7hpr@tapr.org)
> >
>
> I find the enclosure the biggest obstacle for most of my projects. It
> *seems* like it takes more time and effort than the circuitry (probably
> because I don't find it "fun"). Quality off-the-shelf enclosures are
> getting expensive, and usually not quite the right size, plus they require
> punching/drilling/cutting (fingers)/cursing/nuts, bolts, washers, ... For
> the EVM I'd be happy with just the enclosure! The circuit boards are an
> added bonus.
>
> Don, W4DH

I agree with the above sentiment. The kit with the box is worth the extra cost since it saves a lot of time that can be spent experimenting. I don't know about the rest of you, but work really cuts into my day! :)

Ken McCaughey - N3FZX
e-mail: n3fzx@amsat.org

## 36. Re: [DSP:761] Update - TAPR EVM interface boards

From: Anthony Monteiro <aa2tx@postoffice.worldnet.att.net>
Date: Mon, 26 Jan 1998 02:41:24 +0000
To: dsp@tapr.org
Message-ID: <19980126024123.AAA4485@LOCALNAME>
Rendered body type: text/plain

> I'd would like feed back as
>to how many would prefer not to have the enclosure, and would rather have

>the interface boards to put inside their own enclosure.
>
Hi Steve,
I would rather supply my own enclosure.
Cheers + 73,
Tony

Tony AA2TX@amsat.org
Tinton Falls, NJ

## 37. DSP-12 'liberated'

From: "BBAGGER"<bbagger@dscc.dk>
Date: Mon, 26 Jan 98 09:06:11 +0100
To: <dsp@tapr.org>
Message-ID: <9801268858.AA885807834@smtplink.dscc.dk>
Rendered body type: text/plain

I have been working with the DSP-12 toolkit for a while and in the course of actions I decided that it was about time to make it possible to add and remove modem files from the DSP-12.

I have brought the file 'dspfiles.obj' - which holds the code for all the DSP modems - onto such a form (assembly code) that it is possible to edit it using a text editor. In addition I have written a small program that will take the  output from the DSP56000 assembler (the .lod file) and bring it on the same for, meaning that new modems may be added to the DSP-12.

Please observe that most of the individual DSP modems are still available in binary only as released by L.L.Grace. I have no intention to or possibility for bringing these files onto assembly format.

The above has the following advantages:

1) You may reduce the number of options presented on the menu to just the modems you are interested in. In my case I removed everything except the satellite modems, the signal generator and the pipe modem. This gives a very clean menu and it will also give you space for your own developments.

2) You will be able to burn PROMs which include your own developments. This gives a much faster start-up time than having to download a particular modem every time you need it.

If any owner of the DSP-12 toolkit is interested in the file 'dspfiles.asm' and the accompanying utility program I'll be glad to send the files along with information on how to modify the menu programs.

The next logical step would be to try to port some of the stuff developed for the DSP56002EVM to the DSP-12. If anybody can supply some information on the differences between the DSP56002EVM and the DSP-12, I'll be glad to give it a try.

Best 73 de Bent/OZ6BL
(also oz6bl@msat.org)

## 38. EVM56002 bulk purchase

From: Alberto Di Bene <75800340@it.ibm.com>
Date: Mon, 26 Jan 1998 10:26:33 +0000
To: <dsp@tapr.org>
Message-ID: <506010001316388400000 2L042*@MHS>
Rendered body type: text/plain

Has TAPR any plan to start again a bulk purchase of the EVM56002 kit ? Now that more and more ham software is becoming available for that DSP, may be there would be a lot of buyers. Count me for at least three units. Opinons ?

73s,

Alberto di Bene, I2PHD
Private e-mail address :   dibene@usa.net

## 39. Re: [DSP:761] Update - TAPR EVM interface boards

From: Luca Bertagnolio <berta@micronet.it>
Date: Mon, 26 Jan 1998 11:22:26 +0100
To: dsp@tapr.org

Message-ID: <3.0.5.32.19980126112226.01875de0@micronet.it>
Rendered body type: text/plain

At 10.17 24/01/98 -0600, Steve Bible wrote:
>I am the project manager for TAPR on the EVM Radio interface.  Please
>address question to this SIG or to me.  Please be patient.  Thanks.

I guess that what Steve meant is *not* to tell the SIG if you want the case
or not!  Please stop this senseless thread, I think TAPR will, as always,
be so nice to give us the chance to buy just the PCBs, just the case, or both.

73 de Luca

## 40. Re: Update - TAPR EVM interface boards

From: wa0lhc@juno.com
Date: Mon, 26 Jan 1998 07:00:58 EST
To: dsp@tapr.org
Cc: berta@micronet.it
Message-ID: <19980126.070615.3111.2.WA0LHC@juno.com>
Rendered body type: text/plain

On Mon, 26 Jan 1998 04:55:38 -0600 (CST) Luca Bertagnolio
<berta@micronet.it> writes:
>At 10.17 24/01/98 -0600, Steve Bible wrote:  EVM Radio interface.
Please
>>address question to this SIG or to me.  Please be patient.  Thanks.
>
>I guess that what Steve meant is *not* to tell the SIG if you want the
case
>or not!  Please stop this senseless thread, I think TAPR will, as
always,
>be so nice to give us the chance to buy just the PCBs, just the case,
>or both.

        "Voting" on line gives the group some idea of what
        most people want and which direction TAPR will
        most likely be going.   Also, somewhat of a "roll call"
        of who has EVM -- active or gathering dust.

_____
You don't need to buy Internet access to use free Internet e-mail.
Get completely free e-mail from Juno at http://www.juno.com
Or call Juno at (800) 654-JUNO [654-5866]

## 41. Re: [DSP:774] EVM56002 bulk purchase

From: Tim Baggett <tim@dsp.sps.mot.com>
Date: Mon, 26 Jan 1998 06:03:14 -0600 (CST)
To: dsp@tapr.org
Message-ID: <Pine.SUN.3.91.980126055648.6273B-100000@aa5df>
Rendered body type: text/plain

On Mon, 26 Jan 1998, Alberto Di Bene wrote:

> Has TAPR any plan to start again a bulk purchase of the EVM56002 kit ?
> Now that more and more ham software is becoming available for that
> DSP, may be there would be a lot of buyers. Count me for at least
> three units. Opinons ?

Hello Alberto,

Currently there is no plan underway within TAPR or Motorola to provide
for another bulk purchase of the 56002EVM. Many of the people
instrumental in the setup of the original purchase have changed positions
withing the DSP organization since that time (think of it as some lining
of the planets!)

Such a bulk purchase in the future is not entirely impossible, but
currently is not expected. Right now all the EVM's (56303, 56302, 56002,
etc.) are selling rapidly and there isn't much of a store of them.

73
Tim

## 42. Re: [DSP:777] Re: EVM56002 bulk purchase

From: "Adrian da Cunha" <dacunhaa@worldnet.att.net>
Date: Mon, 26 Jan 1998 08:29:27 -0500
To: <dsp@tapr.org>
Message-ID: <001d01bd2a5e$6e337380$ce30440c@dacunhaa>

Rendered body type: text/plain

-----Original Message-----
From: Tim Baggett <tim@dsp.sps.mot.com>
To: dsp@tapr.org <dsp@tapr.org>
Date: Monday, January 26, 1998 08:22
Subject: [DSP:777] Re: EVM56002 bulk purchase

>
>
>On Mon, 26 Jan 1998, Alberto Di Bene wrote:
>
>> Has TAPR any plan to start again a bulk purchase of the EVM56002 kit ?
>> Now that more and more ham software is becoming available for that
>> DSP, may be there would be a lot of buyers. Count me for at least
>> three units. Opinons ?
>
>
>Hello Alberto,
>
>Currently there is no plan underway within TAPR or Motorola to provide
>for another bulk purchase of the 56002EVM. Many of the people
>instrumental in the setup of the original purchase have changed positions
>withing the DSP organization since that time (think of it as some lining
>of the planets!)
>
>Such a bulk purchase in the future is not entirely impossible, but
>currently is not expected. Right now all the EVM's (56303, 56302, 56002,
>etc.) are selling rapidly and there isn't much of a store of them.
>
>73
>Tim
>

## 43. Re: [DSP:777] Re: EVM56002 bulk purchase

From: "Greg Jones, WD5IVD" <wd5ivd@tapr.org>
Date: Mon, 26 Jan 1998 11:43:05 -0600
To: dsp@tapr.org
Message-ID: <v03130359b0f27a99c217@[208.134.134.40]>
Rendered body type: text/plain

Tim has this one right.  We were at the right place at the right time on
those 200 EVM units year and half ago.  Amazing.  I thought we were going
to followup with some other neat projects working with the Motorola group
in question, but as soon as we started to work past the EVM units -- the
entire group sort of got mixed around.  Oh well.  I was thankful for what
we got that one time.

As to eventually doing some type of group deal -- probably not going to
happen.  We would have to get them from the distributors and then would
have to make them available for more then we got them to cover
overhead....so the best solution is to call and place orders with the
distributors (Tim posted something on that a few messages back) and then
wait for it to be filled.

Order right away -- since stock on them is up and down a lot.

Cheers - Greg, WD5IVD

>On Mon, 26 Jan 1998, Alberto Di Bene wrote:
>
>> Has TAPR any plan to start again a bulk purchase of the EVM56002 kit ?
>> Now that more and more ham software is becoming available for that
>> DSP, may be there would be a lot of buyers. Count me for at least
>> three units. Opinons ?
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>
>Hello Alberto,
>
>Currently there is no plan underway within TAPR or Motorola to provide
>for another bulk purchase of the 56002EVM. Many of the people
>instrumental in the setup of the original purchase have changed positions
>withing the DSP organization since that time (think of it as some lining
>of the planets!)
>
>Such a bulk purchase in the future is not entirely impossible, but
>currently is not expected. Right now all the EVM's (56303, 56302, 56002,
>etc.) are selling rapidly and there isn't much of a store of them.
>

>73
>Tim


-----
Greg Jones, WD5IVD
Austin, Texas
wd5ivd@tapr.org
http://www.tapr.org/~wd5ivd

Any sufficiently advanced technology is indistinguishable from
a rigged demo.

## 44. Re: [DSP:779] Re: EVM56002 bulk purchase

From: forrerj@peak.org (Johan Forrer)
Date: Mon, 26 Jan 1998 10:40:00 -0800
To: dsp@tapr.org
Message-ID: <199801261841.KAA04654@peak.org>
Rendered body type: text/plain

Hi,

For what its worth:

I have bought several EVM's from Future/Active recently (Phone:
1-800-655-0006, FAX: 1-800-645-2953). Price for the 56002 EVMs were about
$150, while the 56302 EVM is about $100 more. I have not had any problems
getting the 56002 EVMs - the 56302, however, is another story - I had to
wait for months for one of those.

Just as an aside; be careful getting the 56302 EVM. It is a very nice chip
with lots of on-chip memory and extra peripherals but it does, however, come
with a couple of "surprizes". The first being its pipeline architecture that
seems to nickel and dime one to death about pipeline stalls (much like the
Pentium MMX does), also it is not quite downward compatible with the 56002
code either, meaning at the object code level (one does get the impression
from sales literature that it is.) You also will find the sine/cosine ROM
missing and most every hardware port remapped to new addresses - it has a
zillion new registers that you need to get to know. It is a very powerful
piece of silicon, with lots of possibilities, but be ready for another steep
learning curve.

I have no relation to Future, only been a satisfied customer when purchasing
EVM's - incidentally, I also got several SHARC EVM's from them too.

Hope this is of interest.

--Johan, KC7WW


>Tim has this one right.  We were at the right place at the right time on
>those 200 EVM units year and half ago.  Amazing.  I thought we were going
>to followup with some other neat projects working with the Motorola group
>in question, but as soon as we started to work past the EVM units -- the
>entire group sort of got mixed around.  Oh well.  I was thankful for what
>we got that one time.
>
>As to eventually doing some type of group deal -- probably not going to
>happen.  We would have to get them from the distributors and then would
>have to make them available for more then we got them to cover
>overhead....so the best solution is to call and place orders with the
>distributors (Tim posted something on that a few messages back) and then
>wait for it to be filled.
>
>Order right away -- since stock on them is up and down a lot.
>
>Cheers - Greg, WD5IVD
>
>>On Mon, 26 Jan 1998, Alberto Di Bene wrote:
>>
>>> Has TAPR any plan to start again a bulk purchase of the EVM56002 kit ?
>>> Now that more and more ham software is becoming available for that
>>> DSP, may be there would be a lot of buyers. Count me for at least
>>> three units. Opinons ?
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>>Hello Alberto,
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>>Currently there is no plan underway within TAPR or Motorola to provide

>>for another bulk purchase of the 56002EVM. Many of the people
>>instrumental in the setup of the original purchase have changed positions
>>withing the DSP organization since that time (think of it as some lining
>>of the planets!)
>>
>>Such a bulk purchase in the future is not entirely impossible, but
>>currently is not expected. Right now all the EVM's (56303, 56302, 56002,
>>etc.) are selling rapidly and there isn't much of a store of them.
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>>73
>>Tim
>
>
>-----
>Greg Jones, WD5IVD
>Austin, Texas
>wd5ivd@tapr.org
>http://www.tapr.org/~wd5ivd
>
>Any sufficiently advanced technology is indistinguishable from
>a rigged demo.
>
>
>

## 45. Re: [DSP:761] Update - TAPR EVM interface boards

From: "L. J. Shepherd" <ljs@west.net>
Date: Mon, 26 Jan 1998 11:06:30 -0800
To: dsp@tapr.org
Message-ID: <3.0.2.32.19980126110630.00697134@west.net>
Rendered body type: text/plain

Steve,  The pc interface boards are of most importance to me, but I would also appreciate the enclosure as part of the kit.  I've used my EVM in some brief psk tests with several other experimenters, but do not seem to be able to make the time to build a more 'flexible' interface. I have experienced some RFI to the EVM during my hf tests and an improved enclosure (over my present unit) with better bypassing of all I/O lines seems like a good idea.  Thanks for your work on this project.....JIM K6OYY

At 10:17 AM 1/24/98 -0600, you wrote:
>Here's an update on the TAPR EVM Interface boards...
>
>Four prototypes of the boards were made.  All work fine.  My unit I put
>through the paces on the digital satellites and have it talking to all the
>digital satellites (1200 PSK and 9600 FSK).  I also have it talking
>terrestrial 1200 AFSK.
>
>Here's the plan: the kit will contain two PCBs, one display board and one
>connector board, and all associated part including an enclosure.  We are
>redesigning the DSP-93 enclosure to house the PCBs and EVM.  So the kit
>will be a complete package to take an EVM and get it on the air.  All you
>add is power and connections to your radios.  I'd would like feed back as
>to how many would prefer not to have the enclosure, and would rather have
>the interface boards to put inside their own enclosure.
>
>Progress: The design of the PCBs is complete.  There are some tweeks that
>need to be done before production.  The enclosure is at the Mechanical
>Engineers office getting drawings made up for production.  Next will be a
>beta phase making sure the kit is sound, no missing parts and the
>documentation is correct.  Then full sales go into effect.  There is no
>estimated dates set.
>
>Sorry this has taken longer than anticipated.  Please remember, those of us
>on the design team have other projects we are involved in (like getting the
>most ambitious amateur satellite into space!).  I have pictures and I'll
>make up a short web page showing what we have so far.  I think you'll be
>pleased.
>
>I am the project manager for TAPR on the EVM Radio interface.  Please
>address question to this SIG or to me.  Please be patient.  Thanks.
>
>73,
>
> - Steve, N7HPR

> (n7hpr@tapr.org)
>
>

## 46. Re: [DSP:780] Re: EVM56002 bulk purchase

From: Doug Braun  <dbraun@scdt.intel.com>
Date: Mon, 26 Jan 1998 12:13:21 -0800
To: dsp@tapr.org
Message-ID: <199801262013.AA03664@scdt.intel.com>
Rendered body type: text/plain

One issues: How much longer will Motorola sell the 56002 EVMs?
The 56002 is no longer their flagship device, I believe, and
since the EVM is not really a revenue-producing product, I would
suspect that they would simply drop it as soon as the number of
new design wins for the 56002 starts dropping off.

But maybe I am being pessimistic...

Doug
SV/N1OWU

## 47. Re: [DSP:782] Re: EVM56002 bulk purchase

From: "Greg Jones, WD5IVD" <wd5ivd@tapr.org>
Date: Mon, 26 Jan 1998 15:14:12 -0600
To: dsp@tapr.org
Message-ID: <v0313035bb0f2ac9c8422@[208.134.134.40]>
Rendered body type: text/plain

The issue for the interface kit is that there are a number of TAPR members
with these units that probably never really got them on the air, because of
the interface.  This kit would solve that and then you have all the others
who purchased them, that might like it.  The EVM56002 might be slowly on
the way out, but should be a good platform for many for a long time.

I am sure we will be working on other interfaces in the future, since an
EVM approach seems to be the best choice for now until the DSP processor
curve slows a little and since the DSP-93 isn't available anymore.

Cheers - Greg, WD5IVD

>One issues: How much longer will Motorola sell the 56002 EVMs?
>The 56002 is no longer their flagship device, I believe, and
>since the EVM is not really a revenue-producing product, I would
>suspect that they would simply drop it as soon as the number of
>new design wins for the 56002 starts dropping off.
>
>But maybe I am being pessimistic...
>
>Doug
>SV/N1OWU

-----
Greg Jones, WD5IVD
Austin, Texas
wd5ivd@tapr.org
http://www.tapr.org/~wd5ivd

Any sufficiently advanced technology is indistinguishable from
a rigged demo.

## 48. Re: [DSP:773] DSP-12 'liberated'

From: Jim Sanford <jsanfor@exis.net>
Date: Mon, 26 Jan 1998 21:33:44 -0500
To: dsp@tapr.org
Message-ID: <34CD4788.B27B43C2@exis.net>
Rendered body type: text/plain

I'm VERY much interested, and also in modem development.  Would like a
better 9k6 modem, and step outputs . . . would also like to see a 1200
baud pacsat modem which doesn't lock on the wrong tone . . . . .

Sounds like you've done a lot of NEAT stuff.  Congratulations..
73, Jim
wb4gcs@amsat.org

BBAGGER wrote:

> I have been working with the DSP-12 toolkit for a while and in the
> course of actions I decided that it was about time to make it possible
> to add and remove modem files from the DSP-12.
>
> I have brought the file 'dspfiles.obj' - which holds the code for all
> the DSP modems - onto such a form (assembly code) that it is possible
> to edit it using a text editor. In addition I have written a small
> program that will take the  output from the DSP56000 assembler (the
> .lod file) and bring it on the same for, meaning that new modems may
> be added to the DSP-12.
>
> Please observe that most of the individual DSP modems are still
> available in binary only as released by L.L.Grace. I have no intention
> to or possibility for bringing these files onto assembly format.
>
> The above has the following advantages:
>
> 1) You may reduce the number of options presented on the menu to
>    just the modems you are interested in. In my case I removed
>    everything except the satellite modems, the signal generator
>    and the pipe modem. This gives a very clean menu and it will
>    also give you space for your own developments.
>
> 2) You will be able to burn PROMs which include your own
>    developments. This gives a much faster start-up time than
>    having to download a particular modem every time you need it.
>
> If any owner of the DSP-12 toolkit is interested in the file
> 'dspfiles.asm' and the accompanying utility program I'll be glad to
> send the files along with information on how to modify the menu
> programs.
>
> The next logical step would be to try to port some of the stuff
> developed for the DSP56002EVM to the DSP-12. If anybody can supply
> some information on the differences between the DSP56002EVM and the
> DSP-12, I'll be glad to give it a try.
>
> Best 73 de Bent/OZ6BL
> (also oz6bl@msat.org)

## 49. Re: [DSP:780] Re: EVM56002 bulk purchase

From: Tim Baggett <tim@dsp.sps.mot.com>
Date: Tue, 27 Jan 1998 01:06:51 -0600 (CST)
To: dsp@tapr.org
Message-ID: <Pine.SUN.3.91.980127005613.8772C-100000@aa5df>
Rendered body type: text/plain

Hi All,

On Mon, 26 Jan 1998, Johan Forrer wrote:

> $150, while the 56302 EVM is about $100 more. I have not had any problems
> getting the 56002 EVMs - the 56302, however, is another story - I had to
> wait for months for one of those.

Yes, the demand for 56302 and 56303 EVMs have been quite high.

> Just as an aside; be careful getting the 56302 EVM. It is a very nice chip
> with lots of on-chip memory and extra peripherals but it does, however, come
> with a couple of "surprizes". The first being its pipeline architecture that
> seems to nickel and dime one to death about pipeline stalls (much like the

The 56300 family does have a much deeper pipeline structure, and you will
see stall warnings when assembling 56002 code. However, you can choose to
ignore these warnings as the pipeline is a fully locked pipeline. This
means that if you do not introduce the appropriate stalls in your code
(NOPs or other useful instructions) then the hardware will automatically
stall for you. You really don't need to be concerned with it. However,
you get stall warnings from the assembler just to alert you to the
presence of stalls that are in your code. You can then choose to optimize
your code by rearranging the instructions in your code such that usefull
operations are performed instead of stalls. Still you really don't need
to worry about the stalls (I ignore them all the time when generating
test code when I need to see if something just works)

The reason behind the deeper execution pipeline and stalls is that it
allows the 56300 to execute one instruction per clock cycle instead of

one instruction every 2 cycles on the 56000, therefore doubling the MIPS
(change of flow instructions are a different case).

I believe this is covered in an applications note "Application
Optimization for the 56300 Family DSP" available on the WWW
(http://www.mot.com/sps/dsp)

> Pentium MMX does), also it is not quite downward compatible with the 56002
> code either, meaning at the object code level (one does get the impression
> from sales literature that it is.) You also will find the sine/cosine ROM
> missing and most every hardware port remapped to new addresses - it has a
> zillion new registers that you need to get to know. It is a very powerful
> piece of silicon, with lots of possibilities, but be ready for another steep
> learning curve.
>

The core assembly code is backward compatible with the 56000. This means
that any algorithms written for the 56000, will compile and execute on
the 56300 (it may have a few stalls as mentioned above). However, since
it is a new DSP they peripherals are new or modified as well as the
memory maps. If the memory maps and peripherals didn't change you'd still
have the 56002 ;-)

73,
Tim

## 50. Re: [DSP:782] Re: EVM56002 bulk purchase

From: Tim Baggett <tim@dsp.sps.mot.com>
Date: Tue, 27 Jan 1998 01:15:33 -0600 (CST)
To: dsp@tapr.org
Message-ID: <Pine.SUN.3.91.980127010747.8772D-100000@aa5df>
Rendered body type: text/plain

On Mon, 26 Jan 1998, Doug Braun wrote:

> One issues: How much longer will Motorola sell the 56002 EVMs?
> The 56002 is no longer their flagship device, I believe, and
> since the EVM is not really a revenue-producing product, I would
> suspect that they would simply drop it as soon as the number of
> new design wins for the 56002 starts dropping off.
>
> But maybe I am being pessimistic...

Hi Doug,

Of course, any company wouldn't sell something for long if it wasn't
being sold. However the 56002 is still going very strong, with new design
wins all the time. It is cheaper than the newer DSPs, is very stable, and
is a great buy when you don't need all the MIPS of a 56600 or 56300. In
some applications, the 56002 is still a very good fit to the application!
Plus it has long been designed, the fabrication process well known, and
all other proceedures in place to produce 56002s, so it is easier to
generate revenue with such a device (I have no clue what profit margins
or sales are on any devices - I'm just a grunt)

BTW, all the surround sound home theater applications that used Motorola
Symphony DSPs (56004, 56007, 56009, 56011) were all based on the same
core as the 56002 and were the only core for such applications until the
56362 was announced a few weeks ago (the first audio Symphony part based
on the 56300 core).

The 56002 is still expected to be around for some time yet.

73,
Tim

## 51. Re: [DSP:758] Ezkit Lite Vocoders

From: " stéphane rivière " <sr@hol.fr>
Date: Mon, 26 Jan 1998 09:29:46 +0100
To: <dsp@tapr.org>
Message-ID: <199801270828.JAA28921@mail2.isdnet.net>
Rendered body type: text/plain

Dear Charles ,

> Has any one tried the Lpc2k4 or Lpc7k8 software that comes with the
> Analogue Devices EzkitLite?

I've tried. Very noisy, bad sounding... Just for very old digital network
used by shielded  ears :-)

> I notice that some of the assembler modules also include C 'psuedo code'
> so it may be possible to port them to other DSP platforms.

There is some algorithms far more better (celp, mbe, etc...) but i _never_
seen a _real_ dsp assembler
source code for theses (not under optimized C for studies purposes), it
appears you have to pay for this :-(

Is someone here can tell me I'm wrong ? (I would).

> This may make the foundation for a simple digital 2m radio, we already
> have off the shelf modem technology i.e 9k6.

The "off the shelf modem 9K6" is not really suitable for practical
voice/digital 2m radio, but your idea is great.

Sorry for my english.

73 de F1USA

## 52. Re: [DSP:787] Re: Ezkit Lite Vocoders

From: Charles Brain <chbrain@dircon.co.uk>
Date: Tue, 27 Jan 1998 09:47:20 +0000
To: dsp@tapr.org
Message-ID: <34CDAD28.156077A8@dircon.co.uk>
Rendered body type: text/plain

stéphane rivière wrote:
>
> Dear Charles ,
>
> > Has any one tried the Lpc2k4 or Lpc7k8 software that comes with the
> > Analogue Devices EzkitLite?
>
Thanks Stephane,

Don't worry about the English, I understood it fine.

I have spoken to someone who develops commercial vocoder software
what they did when they needed LPC-10 in a hurry was to take the
lpc-10 S/W in the comp.speech archive and port it to a fixed point
processor. They compiled it for the TMS320C50 in C then hand optimised
some of the routines i.e. the matrix inversion and the IIR filter routines.
Going to a fixed point processor severely degraded the speech quality though.
That was for a shielded ears system on H.F.

What they suggested was to use the GSM standard (which there are some
PD versions in C available) and do a similar thing but use a floating
point processor such as the Sharc or C30. I believe that operates at 13kbits/s.

I have a Nokia digital Mobile phone here and with the batteries removed
the whole thing weighs less than the Motorola EVM does! It makes the mind
boggle.

As far as modems are concerned, yes you are probably right, if the system
is going to be used mobile it will need channel equalisation and it maybe
better to use QPSK or SS (as this is a TAPR newsgroup) rather than GMSK.

I went to a talk last year where one of the packet groups in the U.K
were using GMSK modulator/de-modulator chipsets for their TCP/IP Hub.

Finally

Does the Amateur Service really need Digital Voice and what advantages
are there over what we already have? Or is it just an exercise in showing
how smart we are?


- Charles

## 53. Re: [DSP:787] Re: Ezkit Lite Vocoders

From: Charles Brain <chbrain@dircon.co.uk>
Date: Tue, 27 Jan 1998 10:37:31 +0000
To: dsp@tapr.org
Message-ID: <34CDB8EB.BC8CD65@dircon.co.uk>

Rendered body type: text/plain

Before anyone corrects me!

Yes I know the current 9k6 modems are FSK and not GMSK.
Also my comment about QPSK vs GMSK is probably wrong as well.

I will try to engage brain before opening mouth in future!

- Charles

## 54. unsubscribe

From: "Vince" <vincen@enol.com>
Date: Tue, 27 Jan 1998 08:53:28 -0700
To: <dsp@tapr.org>
Message-ID: <199801271635.JAA20462@mail.enol.com>
Rendered body type: text/plain

[Empty message body]

## 55. Re: [DSP:785] Re: EVM56002 bulk purchase

From: "Donald E. Haselwood" <k4jpj@appstate.campus.mci.net>
Date: Tue, 27 Jan 1998 22:37:06 -0500
To: dsp@tapr.org
Message-ID: <3.0.5.32.19980127223706.007995a0@appstate.campus.mci.net>
Rendered body type: text/plain

>The core assembly code is backward compatible with the 56000. This means
>that any algorithms written for the 56000, will compile and execute on
>the 56300 (it may have a few stalls as mentioned above). However, since
>it is a new DSP they peripherals are new or modified as well as the
>memory maps. If the memory maps and peripherals didn't change you'd still
>have the 56002 ;-)
>
>73,
>Tim

Besides the software compatiability issue, how compatible is the
hardware/board, e.g. will these "new EVMs" fit the same enclosure? I would
assume there is a port that would duplicate port B (if I remember the port
letter correctly) on the 56002, i.e. a bunch of general i/o bits for
running LEDs, PTT lines, etc.

If so, then I would expect that a "universal" enclosure, radio interface
that would accommodate any of the EVM series could be produced (i.e.
something TAPR might produce as a kit).

I am intrigued with the idea of getting a new, faster EVM, and also being
able to run the present 56002 software. Program mods to handle the port
differences (as well as memory mapping) are relatively straighforward (I
think even I can figure it out!). It shouldn't be hard for the beginner if
directions are given. The box/interface, along with open sharing of
software, with a commericial engine, as it has seems to be developing with
the 56002, seems to me like a strategy with a longer life than the DSP-93
where the kit is locked in to a particular processor.

73's
Don, W4DH

## 56. Re: Ezkit Lite Vocoders

From: DSCHULTZ@SSSP.HST.NASA.GOV
Date: Thu, 29 Jan 1998 5:02:37 GMT
To: dsp@tapr.org
Cc: DSCHULTZ@SSSP.HST.NASA.GOV
Message-ID: <980129050237.2ce3@SSSP.HST.NASA.GOV>
Rendered body type: text/plain

Subject: Re: Ezkit Lite Vocoders

Charles Brain asks:

>Finally

>Does the Amateur Service really need Digital Voice and what advantages
>are there over what we already have?

Regenerating digital satellite transponders for one thing.....

Dan Schultz N8FGV

## 57. Re: [DSP:792] Re: Ezkit Lite Vocoders

From: "Alan J. Eynon" <aeynon@micro.ti.com>
Date: Thu, 29 Jan 1998 08:43:56 -0600
To: dsp@tapr.org
Cc: "Alan J. Eynon" <aeyn@micro.ti.com>
Message-ID: <3.0.3.32.19980129084356.006a7344@pcmail.micro.ti.com>
Rendered body type: text/plain

Dan,

I have to disagree.  I think the satellite industry has shown that what
you want up in the sky is a simple bent pipe.  This keeps all the smarts
on the ground, where they're easy to get at (upgrade, FIX, etc.).  All
of the digital satellite links I can think of (IDR, SDS, etc) are
digital through a bent pipe transponder, i.e. non-regenerative.

Cheers,
Alan
N3IRL/G0PTH

At 11:04 PM 1/28/98 -0600, you wrote:
>Subject: Re: Ezkit Lite Vocoders
>
>Charles Brain asks:
>
>>Finally
>
>>Does the Amateur Service really need Digital Voice and what advantages
>>are there over what we already have?
>
>Regenerating digital satellite transponders for one thing.....
>
>Dan Schultz N8FGV
>
>


Software Development Systems, Stafford, Texas Instruments, +1 281-274-2943
---------------------------------------------------------------------------
"For it is a habit of mankind to entrust to careless hope what they long
 for, and to use reason arbitrarily to thrust aside what they do not fancy."
  -- Thucydides, _The Peloponnesian War_

## 58. Re: [DSP:793] Re: Ezkit Lite Vocoders

From: Lyle Johnson <lylej@azstarnet.com>
Date: Thu, 29 Jan 1998 18:18:45 -0700
To: dsp@tapr.org
Message-ID: <3.0.5.32.19980129181845.00867100@pop.azstarnet.com>
Rendered body type: text/plain

Alan,

I htink Dan was looking at using the RUDAK regenerative system that will go
up as part of P3D.  IN adiditon to the bent-pipe, there will also be a
digital-onoy facility.

For better or for worse, that's what's going up ...

73,

Lyle

## 59. Re: [DSP:792] DSP digest 275

From: Macart <macart@rogerswave.ca>
Date: Thu, 29 Jan 1998 21:29:25 -0800
To: dsp@tapr.org
Message-ID: <34D16535.64EF4AC1@rogerswave.ca>
Rendered body type: text/plain

Hi,
Could you please tell me where I could find a C++ program for
determining the coefficients for a bandpass filter using the Kaiser
window. Preferably one where I could input the following data:

passband      =     12-16kHz
transition width    =    3kHz
sampling frequency    =    96kHz

passband ripple    =    0.01dB
stopband attenuation    =    80dB

Thanks

dsp@tapr.org wrote:

> DSP Digest 275
>
> Topics covered in this issue include:
>
>   1) Re: Ezkit Lite Vocoders
>         by DSCHULTZ@SSSP.HST.NASA.GOV
>
> ------------------------------------------------------------------------
>
> Date: Thu, 29 Jan 1998 5:02:37 GMT
> From: DSCHULTZ@SSSP.HST.NASA.GOV
> To: dsp@tapr.org
> Subject: Re: Ezkit Lite Vocoders
> Message-ID: <980129050237.2ce3@SSSP.HST.NASA.GOV>
>
> Subject: Re: Ezkit Lite Vocoders
>
> Charles Brain asks:
>
> >Finally
>
> >Does the Amateur Service really need Digital Voice and what
> advantages
> >are there over what we already have?
>
> Regenerating digital satellite transponders for one thing.....
>
> Dan Schultz N8FGV
>
> ------------------------------
>
> End of DSP Digest 275
> **********************



--
"The future belongs to those who believe in the beauty of their dreams."

## 60. Re: [DSP:792] DSP digest 275

From: Macart <macart@rogerswave.ca>
Date: Thu, 29 Jan 1998 23:42:01 -0800
To: dsp@tapr.org
Message-ID: <34D18449.D3CFDE04@rogerswave.ca>
Rendered body type: text/plain

Hi,
Could you please tell me where I could find a C++ program for
determining the coefficients for a bandpass filter using the Kaiser
window. Preferably one where I could input the following data:

passband      =     12-16kHz
transition width    =    3kHz
sampling frequency    =    96kHz
passband ripple    =    0.01dB
stopband attenuation    =    80dB

Thanks


dsp@tapr.org wrote:

> DSP Digest 275
>
> Topics covered in this issue include:
>
>   1) Re: Ezkit Lite Vocoders
>         by DSCHULTZ@SSSP.HST.NASA.GOV
>
> ------------------------------------------------------------------------
>
> Date: Thu, 29 Jan 1998 5:02:37 GMT

> From: DSCHULTZ@SSSP.HST.NASA.GOV
> To: dsp@tapr.org
> Subject: Re: Ezkit Lite Vocoders
> Message-ID: <980129050237.2ce3@SSSP.HST.NASA.GOV>
>
> Subject: Re: Ezkit Lite Vocoders
>
> Charles Brain asks:
>
> >Finally
>
> >Does the Amateur Service really need Digital Voice and what
> advantages
> >are there over what we already have?
>
> Regenerating digital satellite transponders for one thing.....
>
> Dan Schultz N8FGV
>
> ------------------------------
>
> End of DSP Digest 275
> **********

--
"The future belongs to those who believe in the beauty of their dreams."

## 61. Re: Ezkit Lite Vocoders

From: DSCHULTZ@SSSP.HST.NASA.GOV
Date: Sat, 31 Jan 1998 5:24:16 GMT
To: dsp@tapr.org
Cc: DSCHULTZ@SSSP.HST.NASA.GOV
Message-ID: <980131052416.2f92@SSSP.HST.NASA.GOV>
Rendered body type: text/plain

>I have to disagree.  I think the satellite industry has shown that what
>you want up in the sky is a simple bent pipe.  This keeps all the smarts
>on the ground, where they're easy to get at (upgrade, FIX, etc.).  All
>of the digital satellite links I can think of (IDR, SDS, etc) are
>digital through a bent pipe transponder, i.e. non-regenerative.

>Cheers,
>Alan
>N3IRL/G0PTH

The advantage of being amateurs is that we don't have to follow the
industry bandwagon, we can afford to try something different. We can
adapt commercial technology when it suits our purpose, but we can
also modify such technology to suit our own unique needs.

A regenerating transponder need not be significantly more complicated
than a bent pipe, and could be made programmable through use of onboard
DSP chips (ala RUDAK) and with rad-hard FPGA's on future satellites.

It also offers some advantages compared to a bent pipe. For one thing,
the commercial satellite industry maintains tight control of each user's
uplink power so that they don't suffer the alligator problem that
happened on AO-13. In the amateur radio world, each user sets his own
uplink power. A regenerating transponder doesn't give a user any
incentive to run higher uplink power in order to produce a louder
downlink signal. It also doesn't amplify and retransmit the noise on
the uplink signal, so that you might get by with a less powerful uplink
and smaller antennas. Smaller antennas are a good thing if we want the
amateur satellite service to survive and prosper. If we want to serve
a larger user community it might pay off in the end to build a more
complex satellite in order to simplify the ground station.

I presented a paper at the Amsat meeting in Toronto this past October
on this subject. It is in the conference proceedings if you have that
handy, or I can e-mail it to anyone who wants to read it. (Shameless
plug mode OFF).

Dan Schultz
N8FGV@amsat.org

## 62. Re: [DSP:797] Re: Ezkit Lite Vocoders

From: Jim Sanford <jsanfor@exis.net>
Date: Sat, 31 Jan 1998 05:28:55 -0500
To: dsp@tapr.org
Message-ID: <34D2FCE7.DD0685EF@exis.net>
Rendered body type: text/plain

DSCHULTZ@SSSP.HST.NASA.GOV wrote:

>

Dan:Agree with your bent-pipe vs p3d discussion.

> I presented a paper at the Amsat meeting in Toronto this past October
> on this subject. It is in the conference proceedings if you have that
> handy, or I can e-mail it to anyone who wants to read it. (Shameless
> plug mode OFF).
>

Would very much like an electronic copy, even tho I've already ordered the
coference proceedings...

Thanks & 73,
Jim
wb4gcs@amsat.org

> Dan Schultz
> N8FGV@amsat.org

# February 1998

Original source file: dsp.9802
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/dspsig/mail_archive/dsp.9802

## 1. Re: [DSP:797] Re: Ezkit Lite Vocoders

From: Thomas Sailer <sailer@ife.ee.ethz.ch>
Date: Mon, 02 Feb 1998 09:40:14 +0100
To: dsp@tapr.org
Message-ID: <34D5866E.587B@ife.ee.ethz.ch>
Rendered body type: text/plain

> handy, or I can e-mail it to anyone who wants to read it. (Shameless
> plug mode OFF).

I'd be interested in an electronic version (E-Mail :-))
Thanks

Tom

## 2. HF Channel simulator demo available

From: forrerj@peak.org (Johan Forrer)
Date: Tue, 03 Feb 1998 14:20:09 -0800
To: HFSIG@tapr.org, DSP@tapr.org
Message-ID: <199802032221.OAA10459@peak.org>
Rendered body type: text/plain

Hi,

I have uploaded a demo of my EZ-KIT SHARC-based HF channel simulator for
those experimenting with HF.

ftp.tapr.org/tapr/SIG/dsp/recent_uploads/hfsimdemo.zip

The demo contains three examples: two CCIR POOR conditions, and one
passthrough. These all contain different SNR levels of Gaussian noise.

Sorry - no source code is available, but hope you find the demo of some use.

Enjoy!

Johan, KC7WW

(Tim, could you be so kind to move these files -- thanks much -JF.)

## 3. FS: TI TMS 320C5X DSK

From: Mike Murphree <n4cnw@mindspring.com>
Date: Thu, 05 Feb 1998 11:59:09 -0500
To: dsp@tapr.org
Message-ID: <3.0.1.32.19980205115909.007e74e0@pop.mindspring.com>
Rendered body type: text/plain

I have two of the TI TMS 320C5X DSKs for sale.
One is complete in the box with all software and
books, and the other is missing the data books.
I'd like to sell both together for $100 + shipping
or trade for another Motorola 56002 EVM (66+ MHz
preferred).

See the following web page for more details:

http://www.ti.com/sc/docs/dsps/tools/c5x/dsk.htm


Thanks,
Mike N4CNW  mike.murphree@mindspring.com,
            mike.murphree@boeing.com, n4cnw@amsat.org
--
"A human being is the best computer available to place
 in a spacecraft....  It is also the only one that can
 be mass produced with unskilled labor."
      -- Werner Von Braun
--

## 4. ICSPAT'98 - Call for Papers - Deadline Approaching

From: wd5ivd@tapr.org
Date: Thu, 5 Feb 1998 12:38:45 -0600

To: " TAPR/AMSAT DSP "<dsp@tapr.org>
Message-ID: <v03130302b0ffb76dc355@[208.134.134.40]>
Rendered body type: text/plain

Thought some of you might find this of interest.

Greg

---

ICSPAT CALL FOR PAPERS

9th International Conference on Signal Processing Applications &
Technology at DSP World

Toronto Metro Convention Center, Ontario, Canada
September 13-16, 1998

DEADLINE APPROACHING: FEBRUARY 20, 1998

Abstracts are now being accepted for the following application
areas:
   Active Noise Control - Adaptive Processing - Advanced TV and
   Video Technology - Aerospace - Audio - Automotive - Biomedical
   - Communications - Consumer Products - Data Acquisition -  Data
   Communications - Digital Filter Realizations - DSP Systems -
   FPGAs in DSPs - Geophysical - Image Analysis & Coding - Image
   Understanding & Restoration - Industrial Applications -
   Instrumentation & Testing - Modems - Multimedia - Neural
   Networks - Parallel Processing - Radar - Robotics - Speaker
   Identification - Speech Analysis & Synthesis - Speech Recognition
   - Telephony - Underwater/SONAR - VLSI Architectures - Wavelets -
   Wireless (Radio/Satcom/NAV) - and more. . .

Please submit a 500-1,000 word abstract on our web site,
www.dspworld.com, via email to dsp@mfi.com, or by fax to
415.278.5200 by February 20.  Submission must include selection
of application area as well as a 50 word summary of proposed
paper.  Complete contact information for all authors must also
be provided along with indication of  primary contact.
Please review complete call for papers on our web site,
www.dspworld.com, before submitting.

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   White Mountain DSP, USA
Dr. Hemchandra M. Shertukde

University of Hartford, USA
Mr. Robert Slaviero
Signal Processing Associates, Australia
Dr. Janak Sodha
University of the West Indies, Barbados
Ms. Susan Solomon
CSPI, USA
Dr. Tarun Soni
Torrey Science Corporation, USA
Mr. Theodore C. Tanner
Spatializer Audio Laboratories, USA
Mr. Tomohiko Taniguchi
Fujitsu Laboratories of America, USA
Mr. Jon Thorn
Texas Instruments, USA
Mr. Michael Tran
NEC Electronics, USA
Mr. Asif Zaidi
Motorola, USA

## 5. unsubscribe

From: "Richard Hobbs" <rhobbs@interserv.com>
Date: Sat, 7 Feb 1998 13:15:33 -0800
To: <dsp@tapr.org>
Message-ID: <01bd340d$881d9060$39e0afce@skywalker>
Rendered body type: text/plain

[Empty message body]

## 6. DSP-12 files uploaded to TAPR's ftp server

From: "BBAGGER"<bbagger@dscc.dk>
Date: Thu, 12 Feb 98 09:08:23 +0100
To: <dsp@tapr.org>
Message-ID: <9802128872.AA887271022@smtplink.dscc.dk>
Rendered body type: text/plain

Hi everybody,

I have uploaded the files for manipulation of 'dspfiles.obj' in the DSP-12
(filename dsp12dsp.zip) to ftp://ftp.tapr.org/tapr/SIG/dsp/upload and suggest
that they be stored under the .../sig/dsp56001/DSP-12 directory.

I hope these files may be used for porting programs from DSP56002EVM
to the DSP-12 or doing development work on the DSP-12.

If you have any hints on how to port from the DSP56002EVM, particularly
on the differences between the DSP-12 and DSP56002EVM, please let me know.

Best regards,

Bent
(also oz6bl@amsat.org)

     ---------------------------------------------

The accompanying text file dsp12dsp.txt reads:


DSP12DSP.zip
============

DSP12DSP.zip contains the following files for use in conjunction
with V2.00 of the toolkit for DSP-12:

dsp12dsp.txt       -       this file
dspfiles.asm       -       a source files that asssembles to
                           'dspfiles.obj', a constituent file for DSP-12
dspfiles.txt       -       a description of 'dspfiles.asm' and how to use
                           it
howto.txt          -       hints on how to remove modems from DSP-12
lod2data.c         -       a program to convert DSP56001 modem files from
                           the .lod format to source text format compatibel
                           with 'dspfiles.asm' (compile with the 'compact'
                           memory model)
lod2data.exe       -       a compiled version of the above.


DSP-12 'liberated'
==================

I have been working with the DSP-12 toolkit for a while and in the
course of actions I decided that it was about time to make it possible
to add and remove modem files from the DSP-12.

I have brought the file 'dspfiles.obj' - which holds the code for all
the DSP modems - onto such a form (assembly code) that it is possible
to edit it using a text editor. In addition I have written a small
program that will take the  output from the DSP56000 assembler (the
.lod file) and bring it on the same form. meaning that new modems may
be added to the DSP-12.

Please observe that most of the individual DSP modems are still
available in binary only as released by L.L.Grace. I have no intention
to or possibility for bringing these files onto assembly format.

The above has the following advantages:

1) You may reduce the number of options presented on the menu to
   just the modems you are interested in. In my case I removed
   everything except the satellite modems, the signal generator
   and the pipe modem. This gives a very clean menu and it will
   also give you space for your own developments.

2) You will be able to burn PROMs which include your own
   developments. This gives a much faster start-up time than
   having to download a particular modem every time you need it.


Best 73 de Bent/OZ6BL
(also oz6bl@msat.org)

## 7. Updated version of DSPBOX

From: Alberto Di Bene <75800340@it.ibm.com>
Date: Sun, 15 Feb 1998 21:37:47 +0000
To: <dsp@tapr.org>
Cc: <hfsig@tapr.org>
Message-ID: <5120020003627901000002L212*@MHS>
Rendered body type: text/plain

I have just uploaded to /tapr/SIG/dsp/upload an amended version of DSPBOX.
The previous one had problems with fast Pentium machines.
Could please the site administrator move it to the right place ? Thanks..

It is also possible to download it from my page :
   http://www.qsl.net/i2phd

In case you don't know, DSPBOX is a program for the Texas 'C50 DSK,
to make it behave as a noise-reducing, multiple-notch, band-pass-filtering
unit. Comments and impressions are welcome.

Alberto di Bene, I2PHD        i2phd@qsl.net

## 8. Win95/NT GUI for 56K EVM and Simulator

From: Ernst Parth <eparth@adaptive.telecom.at>
Date: Tue, 17 Feb 1998 13:20:03 +0100
To: "'dsp@tapr.org'" <dsp@tapr.org>
Message-ID: <01BD3BA7.22DA7000@majestix>
Rendered body type: text/plain

Hello,

hope nobody sees this as an intrusion (my appologies in this case).

We wrote a Win95/NT graphical userinterface for the Motorola
EVM56002/4/7 and the simulator. This program is available for free
(currently in beta test).

If You want to try it point Your browser to:

http://members.telecom.at/~erpar

Go to the products page and look for DSP56Kbug.

Please let us know all bugs/problems You find.

best regards

ernst parth

## 9. FW: Win95/NT GUI for 56K EVM and Simulator

From: Ernst Parth <eparth@adaptive.telecom.at>
Date: Tue, 17 Feb 1998 14:11:50 +0100
To: "'dsp@tapr.org'" <dsp@tapr.org>
Message-ID: <01BD3BAE.06BE1230@majestix>
Rendered body type: text/plain

Hello,

hope nobody sees this as an intrusion (my appologies in this case).

We wrote a Win95/NT graphical userinterface for the Motorola
EVM56002/4/7 and the simulator. This program is available for free
(currently in beta test).

If You want to try it point Your browser to:

http://members.telecom.at/~erpar

Go to the products page and look for DSP56Kbug.

Please let us know all bugs/problems You find.

best regards

ernst parth

## 10. Digital Signal Processing and Hurricanes

From: Dale Huguley <kg5qd@worldnet.att.net>
Date: Thu, 19 Feb 1998 11:45:25 +0000
To: dsp@tapr.org
Cc: Gary Arnold <garnold@naples.net>, debra.larson@noaa.gov
Message-ID: <34EC1B55.37D05CE9@worldnet.att.net>
Rendered body type: text/plain

Hi All- February 7th I attended the Third Annual Amateur Radio
Conference at the National Hurricane Center in Miami with hams from all
over the Caribbean in attendance.  There is a Project (just getting off
the ground) funded by the Nation Weather Service and the National Fish
and Wildlife Foundation to set-up low cost weather stations across the
Caribbean, with the data to return to the hurricane center via APRS
packet.  The preliminary plans are to have "off the shelf" equipment to
keep the cost down and reliability up.  Outlying areas would send data
to "hubs" via VHF and hubs to the hurricane center via HF- internet-
satellite etc.

        My questions are:
1. Is there an existing DSP tnc that code optimized for aprs length
packets could be put into the firmware, and what improvements in range
could be expected?
2. Could 2 Meter or 6 meter side band be used for medium haul (200 - 400
miles) hub to hub communication with some dsp help? ( I have heard third
hand that Paccom tried vhf sideband with results not encouraging)
3. What help could DSP be at 30 meters for the Hurricane center
reception of packets? Since we are not talking about a great deal of
info- the baud rate would not have to be 300 baud.

Any help would be appreciated

73 de Dale kg5qd Collier County Florida Skywarn

## 11. Re: [DSP:808] Digital Signal Processing and Hurricanes

From: no@spam.net
Date: Thu, 19 Feb 1998 16:08:37 -0400
To: dsp@tapr.org
Message-ID: <34EC9056.1692@spam.net>
Rendered body type: text/plain

I believe this is happening every day. If the Haitian stations were
sending weather data, it would be there on 30M for all to see.

I use a MFJ 1278B DSP multi-mode controller, if that helps!

NVIS propagation, 40M, U/VHF, 30M and gateways would do the job.
Although the frequency used is up to what is available locally, it
really doesn't matter as long as it, and the propagation, is
appropriate. 20M is a good bet also since anything heard from the Carib
in, say North Dakota, could be repeated. Don't forget the Internet

servers.

73, Tony


Dale Huguley wrote:

>         My questions are:
> 1. Is there an existing DSP tnc that code optimized for aprs length
> packets could be put into the firmware, and what improvements in range
> could be expected?
> 2. Could 2 Meter or 6 meter side band be used for medium haul (200 - 400
> miles) hub to hub communication with some dsp help? ( I have heard third
> hand that Paccom tried vhf sideband with results not encouraging)
> 3. What help could DSP be at 30 meters for the Hurricane center
> reception of packets? Since we are not talking about a great deal of
> info- the baud rate would not have to be 300 baud.
>
> Any help would be appreciated
>
> 73 de Dale kg5qd Collier County Florida Skywarn

## 12. AX.25 encapsulation

From: Charles Brain <chbrain@dircon.co.uk>
Date: Sun, 22 Feb 1998 11:09:00 +0000
To: "dsp@tapr.org" <dsp@tapr.org>
Message-ID: <34F0074C.F29512E@dircon.co.uk>
Rendered body type: text/plain

Hello All,

Does anyone have any suggestions on the best way to
encapsulate digital speech in an AX.25 frame. I am
looking at ways of sending digital speech over AX.25.

Unfortunatly my simple Vocoder produces 7 byte frames every
22.5 ms which don't fit well with the AX.25 model. Some
buffering will be required.

I notice there appears to be an Internet protocol called
VAT (?) that encapsulates speech but adds quite a lot of
overhead.

Also the TDMA structure of GSM doesn't fit either, I don't want
to have to re-write AX.25 to include random access times slots
etc.

Any suggestions?

I can't proceed with what I am doing until I sort this one out!

- Charles G4GUO

## 13. Re: [DSP:810] AX.25 encapsulation

From: tom.king@kcrw.org (Tom King)
Date: Sun, 22 Feb 1998 18:16:16 -0800
To: dsp@tapr.org
Message-ID: <3.0.3.32.19980222181616.007d4880@kcrwnt.kcrw.org>
Rendered body type: text/plain

At 05:23 AM 2/22/98 -0600, you wrote:
>Hello All,
>
>Does anyone have any suggestions on the best way to
>encapsulate digital speech in an AX.25 frame. I am
>looking at ways of sending digital speech over AX.25.
>
>Unfortunatly my simple Vocoder produces 7 byte frames every
>22.5 ms which don't fit well with the AX.25 model. Some
>buffering will be required.

In 1987 I saw speech sent over AX.25 using UDP protocol however it did
required
a 56kb stream.  It sounds like with only 22.5ms/frame you'll have to use
something about as fast.  I'm not sure of the Vocoder being used then.

Another possibility is using Unconnected Protocol( beacon type packets)
because another sample will be coming right behind the last one and if the
first one arrives after the second one it is really useless.

UDP has routing if that is necessary to get the packet to where it is going
and AX.25
Unconnected Protocol does allow for "digipeating" if you have to go more
than one hop
however neither protocol can guarantee a smooth uninterrupted stream of
data to arrive
at the other end to sound like the originator.

Tom King
KA6SOX

## 14. Re: [DSP:811] Re: AX.25 encapsulation

From: Charles Brain <chbrain@dircon.co.uk>
Date: Mon, 23 Feb 1998 09:38:32 +0000
To: dsp@tapr.org
Message-ID: <34F14398.842A8FDE@dircon.co.uk>
Rendered body type: text/plain

Tom King wrote:
>
> UDP has routing if that is necessary to get the packet to where it is going
> and AX.25
> Unconnected Protocol does allow for "digipeating" if you have to go more
> than one hop
> however neither protocol can guarantee a smooth uninterrupted stream of
> data to arrive
> at the other end to sound like the originator.

Hello Tom and others,

Yes I think AX.25 is unsuitable for what I have in mind, none of
the current amateur modems appear suitable either. Conventional packet modems
are not fast enough and the higher speed modems can't cope with
multipath or are unsuitable for use with FEC. Maybe the Tapr FHSS radio
would be good, but we are not allowed to use 900Mhz in the U.K. That band is used
for digital cellphones. There used to be a C.B band in that range but it was so
unpopular that it has been re-allocated for Cellphone usage.

I guess my main problem is that I have no clear goal in mind, which is always a big
mistake.

I have already written a simple LPC10 2400 bps Vocoder for the EVM mainly for self education,
the speech quality is very mechanical and would not find wide spread acceptance. At the
moment it only loops back (in software) on itself. I think it unlikely I would want
to try to port a more sophisticated scheme to the EVM as there is so little space in the Flash.

There was mention of doing an add on board for it, but that seems to have died a death.
I am sure if someone was to produce such a board there would be a market for it
outside the Amateur Radio community, especially if it could be used with the later
Motorola EVM Boards.

But being a Radio Amateur I am supposed to involve radio in my experiments! Other
wise I would just be a computer hobbyist! So I shall struggle on. I have also obtained
the source code for other coding schemes such as FS1016 and the GSM Vocoder and am
trying to sort out how to use a Sound Card for input and output to these.

There are a number of shareware packages about that use these coders for talking
over the Internet, so obviously they will run on a fast P.C. What I need to add is
FEC and some form of framming protocol and a suitable modem.

I guess my efforts would be better directed at designing a better 'high' speed modem,
one that can operate with an un-modified FM radio, has multipath tolerance and
is suitable for applying FEC. S/N performance is not such an issue as it would
only be used for short range communications so I could trade power off against
data rate. Has anyone tried running a H.F style parallel tone modem on 2 meter F.M ?

I know the European DAB standard uses a similar approach, although with much wider
bandwidths.

I wonder how many bounced mail messages I am going to get when I send this email to
the reflector!

- 73 Charles G4GUO

## 15. Re: [DSP:812] Re: AX.25 encapsulation

From: dbraun@cadev6.intel.com
Date: Mon, 23 Feb 1998 02:26:07 -0800

To: dsp@tapr.org
Message-ID: <199802231026.AA004589567@cad139.sc.intel.com>
Rendered body type: text/plain

There are several examples of speech compression that work with a
9600 BPS or less bandwidth. But I doubt it is worth trying to
port the algorithms to the EVM. I think it would be better to do
the ADC/DAC and encoding/decoding in a soundcard- equipped PC,
and use the EVM just as a modem.

Doug
SV/N1OWU

## 16. Re: [DSP:813] Re: AX.25 encapsulation

From: Charles Brain <chbrain@dircon.co.uk>
Date: Mon, 23 Feb 1998 10:47:11 +0000
To: dsp@tapr.org
Message-ID: <34F153AF.232DA8A3@dircon.co.uk>
Rendered body type: text/plain

dbraun@cadev6.intel.com wrote:
>
> There are several examples of speech compression that work with a
> 9600 BPS or less bandwidth. But I doubt it is worth trying to
> port the algorithms to the EVM. I think it would be better to do
> the ADC/DAC and encoding/decoding in a soundcard- equipped PC,
> and use the EVM just as a modem.
>
> Doug
> SV/N1OWU

Yes I know!

I managed to get a simple LPC10 vocoder going, but that used up about
2/3 of the available Flash memory.

Most of the time I spent involved trying to get floating point maths
to work on a fixed point processor. Also the intermediate
results of the Durbin-Levinson algorithm kept overflowing!
I won't be doing that again!

For any of the more complex schemes that require codebooks there
just isn't enough space on the EVM.

I am now looking at the PC/souncard approach. There are a few
shareware packages out there, they all use standard Vocoders
from the comp.speech archive.

- Charles

## 17. FIR/IIR Filter design package

From: forrerj@peak.org (Johan Forrer)
Date: Wed, 25 Feb 1998 08:49:40 -0800
To: dsp@tapr.org
Message-ID: <199802251650.IAA06241@peak.org>
Rendered body type: text/plain

Hi all,

I recently come across a neat-looking tool for designing FIR/IIR filters that
may be of interest. This is a tool suite that uses Matlab's GUI functions that
allows one to interactively choose filter parameters (architecture,
orders, attentuation etc.), plot the resultant phase/amplitude responses,
and generate assembly code for the 56002 for your design. Best thing is
that the price is right -- i.e., its FREE!

This package is contributed software and is called DFP version 1.01.
Developed by Mehmet Zeytinglu of Ryerson Polytech. Look for it at Mathwork's
ftp site:

ftp://ftp.mathworks.com/pub/contrib/v4/signal/dfp.zip
(or .tar if you are using Unix).

I would be intereseted in corresponding with anyone that has gotten it up
and running.

73,

--Johan, KC7WW

PS. I have a web page at http://www.peak.org/~forrerj that is pretty much
dedicated to HF digital communications - tells you a bit about what
I am working on at the moment. Also is a blatant plug for my activities as a
consultant!

## 18. Re: [DSP:815] DSP digest 292

From: "Thomas M. Alldread" <tmaldred@mail.island.net>
Date: Fri, 27 Feb 1998 08:24:50 -0800
To: <dsp@tapr.org>
Message-ID: <199802271630.IAA03900@norm.island.net>
Rendered body type: text/plain

Greetings:

I am wonder if the MathWorks MATLAB software package is within my hobby
budget limits. Does anyone know how much the package costs for individual
use?

73
Tom, VE7TMA

> I recently come across a neat-looking tool for designing FIR/IIR filters
that
> may be of interest. This is a tool suite that uses Matlab's GUI functions
that
> allows one to interactively choose filter parameters (architecture,
> orders, attentuation etc.), plot the resultant phase/amplitude responses,

> and generate assembly code for the 56002 for your design. Best thing is
> that the price is right -- i.e., its FREE!

## 19. Re: [DSP:816] Re: DSP digest 292

From: Carles Perello <perello@imec.be>
Date: Fri, 27 Feb 1998 17:56:14 +0100 (CET)
To: dsp@tapr.org
Message-ID: <Pine.LNX.3.95.980227175542.6644B-100000@latvia.imec.be>
Rendered body type: text/plain

On Fri, 27 Feb 1998, Thomas M. Alldread wrote:

> Greetings:
>
>       I am wonder if the MathWorks MATLAB software package is within my hobby
> budget limits. Does anyone know how much the package costs for individual
> use?

What about using octave?

hth

carles

## 20. Re: [DSP:817] Re: DSP digest 292

From: forrerj@peak.org (Johan Forrer)
Date: Fri, 27 Feb 1998 16:37:54 -0800
To: dsp@tapr.org
Message-ID: <199802280039.QAA28516@peak.org>
Rendered body type: text/plain

Hi,

Matlab's student edition can be purchased at academic book stores for under
$100. It's crippled in that they limit the size of matrices and vectors.
Though, I must admit that I still use it for almost all the stuff I do. If
you are interested in a full version, that runs around $1800, and if you
want all the bells and whistles, that sells for around $7000. Not sure how
deep your pockets are, but certainly out of reach for me.

Like most competitive software, Matlab is in constant state of change;  the
FIR/IIR design package that I mentioned in an earlier posting, does not work
on anything less than version 4.2, as I sadly have found out. The reason is
that they added some nifty functions to the signal processing toolbox to
estimate FIR/IIR filter orders from user-specified ripple and stop-band

input. Those are not available in the earlier versions of the Matlab toolbox
and thus you will have trouble getting the free filter design package to
work as it needs those functions.

Octave is a possiblity, though I'm not sure whether it has the GUI functions
and all those new signal processing functions. Certainly is worth a try -
I'll be most interested to hear if anyone has had good luck with that.

73

--Johan, KC7WW


>
>On Fri, 27 Feb 1998, Thomas M. Alldread wrote:
>
>> Greetings:
>>
>>      I am wonder if the MathWorks MATLAB software package is within my hobby
>> budget limits. Does anyone know how much the package costs for individual
>> use?
>
>What about using octave?
>
>hth
>
>carles
>
>
>

## 21. Re: [DSP:817] Re: DSP digest 292

From: "Don Elsner" <elsner@alpha1.csd.uwm.edu>
Date: Fri, 27 Feb 1998 19:00:06 -0600
To: <dsp@tapr.org>
Message-ID: <199802280100.TAA22233@batch1.csd.uwm.edu>
Rendered body type: text/plain

BAD NEWS-
 Matlab consists of several packages.  There is the base Matlab package plus
the signals toolbox, simulink (simulations), etc.  it is not cheap, they do
not publish their prices.  You have to call
them on the phone and have a sales rep give you a price.  I get the
impression that they adjust their
prices according to the size of your organization.

GOOD NEWS-
There is a student edition available that can be purchased at most
universities for about $100.
Of course it is a limited version (limits the size of matrices) and so I am
not sure how compatible
 the student edition is with all of the custom design software that is out
for matlab.  Bottom line is to give Math Works a call.  They seem to be very
open.

73 - Don ks9f

-----Original Message-----
From: Carles Perello <perello@imec.be>
To: dsp@tapr.org <dsp@tapr.org>
Subject: [DSP:817] Re: DSP digest 292



>
>On Fri, 27 Feb 1998, Thomas M. Alldread wrote:
>
>> Greetings:
>>
>> I am wonder if the MathWorks MATLAB software package is within my hobby
>> budget limits. Does anyone know how much the package costs for individual
>> use?
>
>What about using octave?
>
>hth
>
>carles
>

>
>
>

## 22. Re: [DSP:816] Re: DSP digest 292

From: W4OQM <W4OQM@aol.com>
Date: Fri, 27 Feb 1998 20:22:32 EST
To: dsp@tapr.org
Message-ID: <68af6af5.34f766da@aol.com>
Rendered body type: text/plain

Tom,

Professional MATLAB is beyond a "hobby budget" but the student version is not. I have MATLAB down at work and it cost (as I remember) around $2000. The exact price depends on how many "toolboxes" you get with it.

If you have a local university with a college of engineering, the student version of MATLAB can usually be purchaced at the local school bookstore for about $50 - $70. Technically, you are supposed to be a student to buy it. When I bought a copy at the local university bookstore, they didn't ask for my student ID.

Student MATLAB5 (ISBN 0-13-272550-9) comes with a CD-ROM and a good tutorial book. Three toolboxes are bundled with it. These are 1) the symbolic math toolbox, 2) the control system toolbox, and 3) the signal processing toolbox. The only limitation of the student version is that the maximum matrix size is limited to16,384 elements. This means that you can't sling around 2D matricies greater than 128x128. This is not usually a limitation for student or hobby use. Other than this, it has all features of the professional MATLAB 5.0, including some really slick graphing features. My guess is that the MathWorks offers this student version at the price it does so students will get hooked and have their company buy it. It worked on me!

If anyone in the group has MATLAB, the following book might be of interest:

  Computer-Based Exercises for Signal Processing Using MATLAB
  Burrus, McClellan, Oppenheim, Parks, Schafer & Schuessler
  Prentice Hall, ISBN 0-13-219825-8

Be warned that this book requires a knowledge of advanced engineering mathematics, but it's chock-full of signal processing problems in MATLAB and MATLAB is a great way to visualize the solutions to these problems.

Note: I have no interest in MATLAB, the MathWorks or Prentice Hall other being a satisfied student and business customer.

Regards,
Charlie
W4OQM@aol.com

## 23. Re: Matlab

From: Andrew Burgess <aab@cichlid.com>
Date: Sat, 28 Feb 1998 18:34:16 -0800
To: dsp@tapr.org
Message-ID: <199803010234.SAA16375@loach.cichlid.com>
Rendered body type: text/plain

>If you have a local university with a college of engineering, the student
>version of MATLAB can usually be purchaced at the local school bookstore for
>about $50 - $70.

www.amazon.com has it for $82, $87 or $89 depending on if you
want Mac, PowerMac, DOS or Windows 95/NT. It looks like only 95/NT
is version 5, the rest version 4. Search for "matlab student".

# March 1998

Original source file: dsp.9803
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/dspsig/mail_archive/dsp.9803

## 1. Re: [DSP:821] Re: Matlab

From: W4OQM <W4OQM@aol.com>
Date: Sun, 1 Mar 1998 12:56:41 EST
To: dsp@tapr.org
Message-ID: <78ad64e7.34f9a15d@aol.com>
Rendered body type: text/plain

All,

Oops.  The ISBN I gave in my previous email was for the PowerMac version of
MATLAB5.  MATLAB for other systems will be different.  Sorry for any
confusion.

The ISBN for the book should be OK.

73,
Charlie

## 2. RE: [DSP:822] Re: Matlab

From: bobh <bobh@soli.inav.net>
Date: Sun, 1 Mar 1998 13:11:11 -0600
To: "'dsp@tapr.org'" <dsp@tapr.org>
Message-ID: <01BD4513.868992A0@dip320.inav.net>
Rendered body type: text/plain

Thanks Charlie.
I think I caught my order from amazon in time.
For win95, I think the correct ISBN is 0132724774 for
"The Student Edition of Matlab : Version 5 Cd-Rom Windows 95/Nt :The Language of Technical Computing"
Let's see which version I get.
Bob wm6h

----------
From:   W4OQM[SMTP:W4OQM@aol.com]
Sent:   Sunday, March 01, 1998 12:04 PM
To:     dsp@tapr.org
Subject:        [DSP:822]  Re: Matlab

All,

Oops.  The ISBN I gave in my previous email was for the PowerMac version of
MATLAB5.  MATLAB for other systems will be different.  Sorry for any
confusion.

The ISBN for the book should be OK.

73,
Charlie

## 3. Beta of PSK31 with QPSK for Texas C50 Available!!

From: Eduardo Jacob <jtpjatae@bicc00.bi.ehu.es>
Date: Tue, 03 Mar 1998 20:26:41 +0100
To: psk31@bipt106.bi.ehu.es
Message-ID: <3.0.5.32.19980303202641.00864b60@bicc00.bi.ehu.es>
Rendered body type: text/plain

There is a beta for PSK31 with QPSK for the DSKC50.
It's available at:

ftp://det.bi.ehu.es/pub/ham/psk31/psk31c50_beta1.zip

Comments are welcome.

        Eduardo/EA2BAJ

PD: PSK31 Information always available at
http://bipt106.bi.ehu.es/psk31.html

## 4. RE: [DSP:824] Beta of PSK31 with QPSK for Texas C50 Available!!

From: Salman Aslam <research@paknet1.ptc.pk>
Date: Wed, 4 Mar 1998 09:35:04 +0500
To: "'dsp@tapr.org'" <dsp@tapr.org>

Message-ID: <01BD4751.AFDF1E00@salman>
Rendered body type: text/plain

HELP !!

Could you please tell me how to unsubscribe?  Thank-you

Salman

---

----------
From:   Eduardo Jacob
Sent:   Wednesday, March 04, 1998 12:28 AM
To:     dsp@tapr.org
Subject:        [DSP:824] Beta of PSK31 with QPSK for Texas C50 Available!!

There is a beta for PSK31 with QPSK for the DSKC50.
It's available at:

ftp://det.bi.ehu.es/pub/ham/psk31/psk31c50_beta1.zip

Comments are welcome.

        Eduardo/EA2BAJ

PD: PSK31 Information always available at
http://bipt106.bi.ehu.es/psk31.html

## 5. Re: AX.25 encapsulation

From: dzn1@juno.com (Howard D. Rubin)
Date: Wed, 4 Mar 1998 06:44:08 -0500
To: dsp@tapr.org
Message-ID: <19980304.064810.11782.0.dzn1@juno.com>
Rendered body type: text/plain

The TMS320C542 DSK DSP core has specialized instructions that may help in
the code book search algorithm.  Check out the TMS320C54x applications
user guide volume 4 from Texas Instruments.

Regards, Howard Rubin, N3FEL

_____
You don't need to buy Internet access to use free Internet e-mail.
Get completely free e-mail from Juno at http://www.juno.com
Or call Juno at (800) 654-JUNO [654-5866]

## 6. [psk31] PSK31C50 beta version bug!

From: Eduardo Jacob <edu@kender.es>
Date: Wed, 04 Mar 1998 22:56:08 -0100
To: dsp@tapr.org, hfsig@tapr.org
Message-ID: <3.0.5.32.19980304225608.00808210@kender.es>
Rendered body type: text/plain

>>> From Andrew Senior
Hello everyone,

If you are using the beta release of PSK31 for the 'C50, please note there is
at least one bug in it! I discovered this not long after I sent the package to
Eduardo to go on the web-site (oops!) The bug concerns the auto-CQ feature
(F5). It should work fine if you want to call CQ when you are not already
transmitting, but if you have already turned the transmitter on (i.e. pressed
F2), then press F5, although the first CQ call will go out fine, if you
subsequently come to press F5 to call again, the transmission will start
without a run of idles to allow the DCD to turn on. I have found and fixed
this bug and the first proper release will include this fix.

In the meantime, I recommend you steer clear of using auto-CQ when the
transmitter is already on, though you probably wouldn't want to do this very
often anyway.

Eduardo has asked me to implement the RTS PTT control and I will endeavour to
have this in the first proper release too.

73, Andrew.
G0TJZ

## 7. test

From: "KA5T Larry Wise" <lewise@inetport.com>
Date: Fri, 06 Mar 1998 16:10:28
To: "TAPR DSP LIST" <dsp@tapr.org>
Message-ID: <199803061612.KAA13077@admin.inetport.com>
Rendered body type: text/plain

...

Larry   KA5T

Georgetown, Texas
lewise@inetport.com

## 8. EVM56K

From: David Borden <dborden@laser.net>
Date: Sat, 07 Mar 1998 15:15:23 -0800
To: dsp@tapr.org
Message-ID: <3501D50B.D87@laser.net>
Rendered body type: text/plain

Does anyone have a Motorola EVM56K Evaluation Module that they want to
sell?
David Borden, K8MMO
dborden@laser.net

## 9. EVM usage under Linux

From: forrerj@peak.org (Johan Forrer)
Date: Mon, 09 Mar 1998 11:00:11 -0800
To: dsp@tapr.org
Message-ID: <199803091901.LAA19772@peak.org>
Rendered body type: text/plain

Hello fellow EVM experimentors,

I have had some good luck using my EVM applications under Linux and wonder
if anyone else have been trying to use Linux with the EVM too?

I am particularly interested in hearing anyone getting Jeff Dione's EVM
development tools working ?  Otherwise, the assembler, debugger, and DL all
runs just fine under DOSEMU - really cute.

73,

Johan, KC7WW

## 10. Re: [DSP:830] EVM usage under Linux

From: John Melton - g0orx/n6lyt <john@images.demon.co.uk>
Date: Mon, 09 Mar 1998 20:44:08 +0000
To: dsp@tapr.org
Message-ID: <35045498.F4AC5067@images.demon.co.uk>
Rendered body type: text/plain

Johan Forrer wrote:

> Hello fellow EVM experimentors,
>
> I have had some good luck using my EVM applications under Linux and wonder
> if anyone else have been trying to use Linux with the EVM too?
>
> I am particularly interested in hearing anyone getting Jeff Dione's EVM
> development tools working ?  Otherwise, the assembler, debugger, and DL all
> runs just fine under DOSEMU - really cute.
>
> 73,
>
> Johan, KC7WW

Johan,

I am using the EVM almost 99%of the tiime with Linux.  I really only use it
for working the 9600 baud satellites,  and have that modem in the flash
eprom,  so I dont have to download any code.

John Melton,

g0orx/n6lyt

## 11. Re: [DSP:830] EVM usage under Linux

From: dbraun@cadev6.intel.com
Date: Mon, 09 Mar 1998 22:45:20 +0200
To: dsp@tapr.org
Message-ID: <199803101038.AA080276306@cad139.sc.intel.com>
Rendered body type: text/plain

DL also works fine for me as a native Linux executable.

By the way, I really have no clue why DL would not always work
OK. It always works for me, and I've tried it on 3 different PCs.

Do you think the problem could be in the PC code, or in the EVM
code? Perhaps the AlefNull guys could tell us if they ever had
any problems with it. I never really changed any of the code that
accesses the serial port- in fact, I've stolen it more than once
to use for other programs...

Doug
SV/N1OWU

## 12. Re: [DSP:830] EVM usage under Linux

From: Tomi Manninen <tpmannin@cc.hut.fi>
Date: Tue, 10 Mar 1998 13:18:28 +0200 (EET)
To: dsp@tapr.org
Message-ID: <Pine.OSF.3.96.980310130956.15517A-100000@gamma.hut.fi>
Rendered body type: text/plain

On Mon, 9 Mar 1998, Johan Forrer wrote:

> I have had some good luck using my EVM applications under Linux and wonder
> if anyone else have been trying to use Linux with the EVM too?
>
> I am particularly interested in hearing anyone getting Jeff Dione's EVM
> development tools working ?  Otherwise, the assembler, debugger, and DL all
> runs just fine under DOSEMU - really cute.

I also do all my EVM stuff under linux and have had the same success as
you. Also as Dave said DL works as a native linux binary too. (BTW I did
some rather cosmetic changes so that it (the n1owu version) compiles with
gcc and with -Wall. Mail me Dave if that is of any interest.)

But it may be of some interest to someone that I just yesterday tried the
latest Wine and the windows version of the EVM debugger seemed to run
100% under it. That is at least in demo mode, with the serial port
disabled. I didn't have time to test it with the serial port enabled and
an EVM connected but given that Wine gave no complaints when I tried
without a EVM connected (particularly no "direct i/o attemted..."
complaints) it could work.

FWIW.

--
---Tomi Manninen   /   Tomi.Manninen@hut.fi   /   OH2BNS @ OH2RBI.FIN.EU---

## 13. Re: [DSP:830] EVM usage under Linux

From: Tomi Manninen <tpmannin@cc.hut.fi>
Date: Tue, 10 Mar 1998 13:19:53 +0200 (EET)
To: dsp@tapr.org
Message-ID: <Pine.OSF.3.96.980310131906.15517B-100000@gamma.hut.fi>
Rendered body type: text/plain

Arrgh!

In my previous email replace "Dave" with "Doug"... Sorry.

--
---Tomi Manninen   /   Tomi.Manninen@hut.fi   /   OH2BNS @ OH2RBI.FIN.EU---

## 14. Re: [DSP:833] Re: EVM usage under Linux

From: dbraun@cadev6.intel.com
Date: Tue, 10 Mar 1998 16:50:45 +0200
To: dsp@tapr.org
Message-ID: <199803101506.AA082132413@cad139.sc.intel.com>
Rendered body type: text/plain

> I also do all my EVM stuff under linux and have had the same success as
> you. Also as Doug said DL works as a native linux binary too. (BTW I did
> some rather cosmetic changes so that it (the n1owu version) compiles with
> gcc and with -Wall. Mail me Doug if that is of any interest.)

>
>---Tomi Manninen   /   Tomi.Manninen@hut.fi   /   OH2BNS @ OH2RBI.FIN.EU---

If you send me the code, I will eventually merge your changes
with my Win32 changes, so that there can be one set of code that
works on all OSes.  Any idea why it mighbt hang up on
some PCs, but not others?

By the way, I heop that people are aware of the runtime parameter
feature that I added to DL.EXE. This allows you to patch EVM
memory locations when you load the program. If you write the EVM
code to take advantage of it, it allows users to set the channel,
gain, etc. when they load a program, instead of having to
re-assemble it.  For an example, look at the program "tone.asm"
that is in the collection of stuff I uploaded to ftp.tpar.org a
while ago.  You run "dl tone f=2235" to load the "tone" program
and set its output frequency to 2235 Hz, or "dl tone f=1800 f2=2400"
to get a two-tone output...

Doug
SV/N1OWU

## 15. Re: EVM usage under Linux

From: Richard Seabrook <Richard_Seabrook@compuserve.com>
Date: Tue, 10 Mar 1998 16:07:13 -0500
To: "INTERNET:dsp@tapr.org" <dsp@tapr.org>
Message-ID: <199803101607_MC2-3643-CA2E@compuserve.com>
Rendered body type: text/plain

Doug, SV/N1OWU, you wrote:

> For an example, look at the program "tone.asm"
> that is in the collection of stuff I uploaded to ftp.tpar.org a
> while ago.  You run "dl tone f=2235" to load the "tone" program
> and set its output frequency to 2235 Hz, or "dl tone f=1800 f2=2400"
> to get a two-tone output...

Hey, I have been looking for something to produce two tones recently...
(wanted to look at some Lissajou figures)
When you say in the stuff you uploaded 'a while ago' are you
speaking about  the TONE.ASM in EVCODE.ZIP, within N1OWU_11.ZIP?

The header of TONE.ASM from this one, which I have been using, reads:

```
;
; $Header: E:/HAM/EVM/TEST/RCS/TONE.ASM 1.2 1996/12/28 15:57:26 dbraun Exp
$
;
; $Log: TONE.ASM $
; Revision 1.2  1996/12/28 15:57:26  dbraun
; Some improvements
;
; Revision 1.1  1996/12/06 09:32:16  dbraun
; Initial revision
;
;
 and looking towards the end, I don't see anything referring to 'f2' :
-----------------------------------
CarPhase  dc 0

; These are meant to be patched at run time: freq and RMS amplitude
f         dc DefaultFreq  ; 1 to ~22000 Hz
rms       dc DefaultRMS ; 0.0 to 0.99999 RMS volts
dig       dc 1           ; 0 for mic-level output, 1 for digital (line)
level

; This (cycles/sample) floating-point value is calculated from f, above.
; CarFreq = 2 * f / SampleFreq
CarFreq   dc 0
-----------------------------------
If you have uploaded a more recent Tone.asm , which I have just been
trying to find on the TAPR ftp site, maybe you would point me in the right
direction. Or I should try it out before jumping on the reply button... : )
(If thats the case I apologize for being a disbeliever - I've got a feeling
the
'f2' though should have been defined somewhere?)

Would be grateful if you would shed a bit more light on this.
```

BTW: I really like the DL, DL32, and supporting changes in BIOS2.ASM
you made...

regards

Richard
ON9BCS / G7JMG

## 16. Re: [DSP:833] Re: EVM usage under Linux

From: forrerj@peak.org (Johan Forrer)
Date: Tue, 10 Mar 1998 13:58:19 -0800
To: dsp@tapr.org
Message-ID: <199803102159.NAA18013@peak.org>
Rendered body type: text/plain

Tomi,

>> I am particularly interested in hearing anyone getting Jeff Dione's EVM
>> development tools working ?

Pleased to report that I got this Linux-based software for the EVM working
now. It basically is an assembler for the 56002 and a set of utilities to
dowload and debug via the OnCE port. The assembler mostly follows the same
format as the one that came with the EVM - there are a couple of  odd things
to watch out for. I used it to assemble, download, and run one of my EVM
test programs just fine.

>But it may be of some interest to someone that I just yesterday tried the
>latest Wine and the windows version of the EVM debugger seemed to run
>100% under it. That is at least in demo mode, with the serial port
>disabled. I didn't have time to test it with the serial port enabled and
>an EVM connected but given that Wine gave no complaints when I tried
>without a EVM connected (particularly no "direct i/o attemted..."
>complaints) it could work.

This sounds promising - thanks for pointing this out. Which version of WINE
would you recommend?
I would'nt mind following up on this.

73,

--Johan

## 17. Re: [DSP:836] Re: EVM usage under Linux

From: dbraun@cadev6.intel.com
Date: Wed, 11 Mar 1998 10:33:59 +0200
To: dsp@tapr.org
Message-ID: <199803110856.AA229616565@cad139.sc.intel.com>
Rendered body type: text/plain

> Hey, I have been looking for something to produce two tones recently...
> (wanted to look at some Lissajou figures)
> When you say in the stuff you uploaded 'a while ago' are you
> speaking about  the TONE.ASM in EVCODE.ZIP, within N1OWU_11.ZIP?

Yes, the version in n1owu_11.zip is out of date.  If anyone
wants a the newest version right away, email me for a copy.

Doug

## 18. Re: [DSP:837] Re: EVM usage under Linux

From: Tomi Manninen <tpmannin@cc.hut.fi>
Date: Wed, 11 Mar 1998 14:24:24 +0200 (EET)
To: dsp@tapr.org
Message-ID: <Pine.A41.3.96.980311142039.87042A-100000@vipunen.hut.fi>
Rendered body type: text/plain

On Tue, 10 Mar 1998, Johan Forrer wrote:

> >> I am particularly interested in hearing anyone getting Jeff Dione's EVM
> >> development tools working ?
>
> Pleased to report that I got this Linux-based software for the EVM working
> now. It basically is an assembler for the 56002 and a set of utilities to
> dowload and debug via the OnCE port. The assembler mostly follows the same
> format as the one that came with the EVM - there are a couple of  odd things
> to watch out for. I used it to assemble, download, and run one of my EVM
> test programs just fine.

Very interesting! Where can I find these utilities?

> >But it may be of some interest to someone that I just yesterday tried the
> >latest Wine and the windows version of the EVM debugger seemed to run
> >100% under it.
>
> This sounds promising - thanks for pointing this out. Which version of WINE
> would you recommend?
> I would'nt mind following up on this.

I used the latest as found in sunsite. I think it was 980301. But I really
haven't followed the Wine developement closely enough to recommend any
particular version.

--
---Tomi Manninen / Tomi.Manninen@hut.fi / OH2BNS @ OH2RBI.FIN.EU---

## 19. Choice of architecture

From: "Marius Hauki" <marius@krepro.no>
Date: Wed, 11 Mar 1998 13:13:50 +0100
To: <dsp@tapr.org>
Message-ID: <199803111318.OAA04452@falk.c2i.net>
Rendered body type: text/plain

DSP list :

I have been a member of this list for about 1/2 year now and I see that
there is a lot of talk about the EVM and other TAPR stuff.

I have some old Texas instrument
DSP evaluation gear with compiler and assembler but the field moves so quickly that
I do not know where to start. I assume the tms320c26 evaluation kit is obolete by now ?

I have noticed the Analog Devices Sharc prosessors has received some attention and that
they have a low priced and powerful evaluation board.

Can someone please give me some hints on what DSP arcitecture to choose
working on and the development tools to go ?
What is the hot architecture and toolset today ?

Have somebody on this list done any work with coding of video for transmission
and reception with FEC and efficient coding ? I am thinking of digital ATV.

73 de LA9EEA
Marius Hauki

## 20. Re: [DSP:839] Re: EVM usage under Linux

From: forrerj@peak.org (Johan Forrer)
Date: Wed, 11 Mar 1998 09:32:57 -0800
To: dsp@tapr.org
Message-ID: <199803111734.JAA19016@peak.org>
Rendered body type: text/plain

Tomi,

>> Pleased to report that I got this Linux-based software for the EVM working
>> now. It basically is an assembler for the 56002 and a set of utilities to
>> dowload and debug via the OnCE port. The assembler mostly follows the same
>> format as the one that came with the EVM - there are a couple of odd things
>> to watch out for. I used it to assemble, download, and run one of my EVM
>> test programs just fine.
>
>Very interesting! Where can I find these utilities?
>

I originally downloaded it from
ftp://ftp.pfnet.com/pub/m56k/evm56k-0.2.9.tar.gz , but this FTP server does
not allow guest accounts any longer. Perhaps the code migrated somewhere
else if you could find it. I tried contacting the author, but got no
response to my e-mails. Best is if I e-mail what I have to whoever needs it.
Just re-mail me please (123k for the .tgz file).

73,

--Johan

## 21. Re: [DSP:840] Choice of architecture

From: forrerj@peak.org (Johan Forrer)
Date: Wed, 11 Mar 1998 09:32:59 -0800
To: dsp@tapr.org
Message-ID: <199803111734.JAA19039@peak.org>
Rendered body type: text/plain

Marius,

My 2 cents worth....

>I have some old  Texas instrument
>DSP evaluation gear with compiler and assembler but the field moves so
quickly that
>I do not know where to start. I assume the tms320c26 evaluation kit is
obolete by now ?

Obsolete I would agree. There are so many new variants of the C5x now that
are cost effective and more useful. The C2x also has a rather restrictive
and primitive architecture that I would not recommend to someone that want
to start learning about DSP.

>I have noticed the Analog Devices Sharc prosessors has received some
attention and that
>they have a low priced and powerful evaluation board.

Yes, certainly -- where can you buy a 40 MIPS floating point DSP for $178?
That price includes a C compiler (a little buggy but  useful) and other
development tools. One can do fairly challenging DSP work in C (for example,
see my web page for HF channel simultor using this such a processor
http://www.peak.org/~forrerj ). However, most competent DSP programmers are
very much at home working in assembly language. Do not think that C is the
answer, at least for the forseeable future.

>Can someone please give me some hints on what DSP arcitecture to choose
>working on and the development tools to go ?
>What is the hot architecture and toolset today ?

Good question -- we all have our preferences. Depends what you want to
achieve. If you are into amateur radio digital radio communications
experimentation, the Motorola 56K has a good following here on this list. If
the interest is in software transceivers for HF, VHF, and microwave work,
there are excellent work being done using the Analog Devices 2181 EZKIT
($89). There also are some activities around the C5x DSK lately, i.e., audio
noise reduction, also HF PSK demodulation.
With some caution, I would also mention the possibilities for doing DSP work
using the Pentium MMX instruction set. The field is in much disarray and too
much hype, but I did succeed to get some rather useful stuff together. Been
a while since I played with it though.

I think the general idea is to find a support group that meets your
interests. Most modern DSP chips are pretty much capable of doing the usual
stuff. In some situations you may find a considerable body of contributed
materials to draw from. It is an active field and you would need to look
around a bit for those that are working at it.

>Have somebody on this list done any work with coding of video for transmission
>and reception with FEC and efficient coding ? I am thinking of digital ATV.

I have not, but there was some activity at the recent DCC's on the topic.
You may want to look at the past two years or so contributions -- TAPR has
that on its web page.

Hope this helps.

--Johan

## 22. Re: [DSP:840] Choice of architecture

From: Tim Baggett <tim@aa5df.sps.mot.com>
Date: Wed, 11 Mar 1998 09:51:48 -0600 (CST)
To: dsp@tapr.org
Message-ID: <199803111551.JAA18075@aa5df.dsp>
Rendered body type: text/plain

Hi Marius,

> Can someone please give me some hints on what DSP arcitecture to choose
> working on and the development tools to go ?
> What is the hot architecture and toolset today ?

I would recommend the Motorola 56300 as the hot DSP architecture today,
but don't trust me...I work for Motorola ;-)

Evaluation boards with external SRAM, and CD quality stereo codec, and
plenty of signal headers for interfacing other projects are available
from Motorola distributers for less than <$200. I do not know the exact
pricing of the EVMs.

For more information you can visit www.mot.com/SPS/DSP and select
'Distributers' from the quick menu at the bottom of the page.

73,
Tim

## 23. Re: EVM usage under Linux

From: Eduardo Jacob <jtpjatae@bicc00.bi.ehu.es>
Date: Wed, 11 Mar 1998 20:10:09 +0100
To: dsp@tapr.org
Message-ID: <3.0.5.32.19980311201009.00860690@bicc00.bi.ehu.es>
Rendered body type: text/plain

>I originally downloaded it from
>ftp://ftp.pfnet.com/pub/m56k/evm56k-0.2.9.tar.gz , but this FTP server does
>not allow guest accounts any longer.

        It's available at my ftp-server at:

ftp://det.bi.ehu.es/pub/ham/evm/Dionne/evm56k-0.2.9.tar.gz

        Jeff is apparently very busy now porting Linux to the Pilot PDA, just see
it at:

http://ryeham.ee.ryerson.ca/uClinux/

        Perhaps you can locate another email address.

        Eduardo

## 24. Re: [DSP:842] Re: Choice of architecture

From: dbraun@cadev6.intel.com
Date: Wed, 11 Mar 1998 21:09:57 +0200
To: dsp@tapr.org
Message-ID: <199803112110.AA245810610@cad139.sc.intel.com>
Rendered body type: text/plain

> With some caution, I would also mention the possibilities for doing DSP work
> using the Pentium MMX instruction set. The field is in much disarray and too
> much hype, but I did succeed to get some rather useful stuff together. Been
> a while since I played with it though.

Keep in mind that the "normal" floating-point Pentium instruction
set is surprisingly fast. A Pentium II will do floating-point
array math about as fast as a Cray-I supercomputer of the
late 70's. And for general-purpose C code, it will be several
times faster than a Cray.

Also, keep in mind that the Pentiums will do floating-point
math just as fast as integer math!

Here are some other nice points:  You probably already own one,
they usually have megabytes of memory, and you can get a very
good C compiler for it for under $100.  Plus, millions of other
hams will be able to run the stuff you write.

Naturally, DSP code on the PC will usually use a soundcard for
I/O. Several years ago, writing code to interface to soundcards
was a black art, and you had to buy developer's kits from places
like Creative Labs to figure out how to do it. But today, there
are reasonably good APIs in Win 95 and NT, and lots of books,
etc. on the subject.

I work for Intel (but not in marketing...)

Doug Braun
N1OWU

(These are my personal comments, and do not represent the official views
or opinions of Intel).

## 25. Re: [DSP:842] Re: Choice of architecture

From: Thomas Sailer <sailer@ife.ee.ethz.ch>
Date: Thu, 12 Mar 1998 10:02:12 +0100
To: dsp@tapr.org
Message-ID: <3507A494.247E@ife.ee.ethz.ch>
Rendered body type: text/plain

> With some caution, I would also mention the possibilities for doing DSP work
> using the Pentium MMX instruction set. The field is in much disarray and too
> much hype, but I did succeed to get some rather useful stuff together. Been
> a while since I played with it though.

I agree that you can very well use a modern desktop CPU to do
signal processing, but have you been able to do anything useful
with mmx? I lately tried to "MMXify" the inner loop of the
FIR filter on my HF software, but didn't succeed.
Granted, it's cool if you can do 2 muls per cycle, but if you
need 20 insns before and after to setup/clean up then that's of
no use. It didn't even reduce register pressure due to
the lack of a "PADDQ" insn.

Tom

## 26. Re: [DSP:845] Re: Choice of architecture

From: Thomas Sailer <sailer@ife.ee.ethz.ch>
Date: Thu, 12 Mar 1998 10:12:49 +0100
To: dsp@tapr.org
Message-ID: <3507A711.6E05@ife.ee.ethz.ch>
Rendered body type: text/plain

Doug Braun wrote:
> are reasonably good APIs in Win 95 and NT, and lots of books,
> etc. on the subject.

Really? Is there now an API that allows low latency input and
output? Can you enlighten me? I even had to hack around
the seriously broken VDMAD in Windoze 95 (and I guess it's
as broken in previous versions...).

> I work for Intel (but not in marketing...)

Since you work for Intel, you could probably enlighten us
of a useful application for MMX. I've lately tried to
make use of MMX in a simple FIR filter, but didn't succeed.

Tom

## 27. Re: [DSP:847] Re: Choice of architecture

From: Charles Brain <chbrain@dircon.co.uk>
Date: Thu, 12 Mar 1998 09:35:20 +0000
To: dsp@tapr.org
Message-ID: <3507AC58.B4B32A57@dircon.co.uk>
Rendered body type: text/plain

Thomas Sailer wrote:
>
> Doug Braun wrote:
> > are reasonably good APIs in Win 95 and NT, and lots of books,
> > etc. on the subject.
>
> Really? Is there now an API that allows low latency input and
> output? Can you enlighten me? I even had to hack around

I would interested as well, I am no Windows programmer, but
have been playing round interfacing to a Creative Labs Soundcard
using DMA in DOS (DJGPP). It would be nice to do the same thing in
Win95 or NT.

- Charles G4GUO

## 28. Re: [DSP:844] DSP digest 304

From: Alberto Di Bene <75800340@it.ibm.com>
Date: Thu, 12 Mar 1998 09:44:20 +0000
To: <dsp@tapr.org>
Message-ID: <5120020004769153000002L232*@MHS>
Rendered body type: text/plain

>Evaluation boards with external SRAM, and CD quality stereo codec, and
>plenty of signal headers for interfacing other projects are available
>from Motorola distributers for less than <$200. I do not know the exact
>pricing of the EVMs.

Tim, do Motorola distributors sell in quantity one to individuals at that
price ? Do they ship by mail
overseas ? Could you recommend one that does ? May be in the US it's easy to
get hold of an EVM,
but in Italy the distributor I phoned to, asks an outrageous price for it. I
would like to switch to the 56K
from the C50, just for the greater developing activities I see on it, but,
barring new events, for the
moment I can't.

Alberto di Bene , I2PHD
<<< See my home page at : http://www.qsl.net/i2phd with the DSPBOX
program >>>

## 29. Re: [DSP:849] Re: DSP digest 304

From: Tim Baggett <tim@aa5df.sps.mot.com>
Date: Thu, 12 Mar 1998 09:21:16 -0600 (CST)
To: dsp@tapr.org
Message-ID: <199803121521.JAA18950@aa5df.dsp>
Rendered body type: text/plain

Hi Alberto,

> Tim, do Motorola distributors sell in quantity one to individuals at that
> price ?

I believe so.

> Do they ship by mail
> overseas ?

I heard from someone on this list that they had one shipped from the
US. This may actually be preferred, as the 56303EVM is/was difficult to
obtain in Europe for awhile due to demand.

> Could you recommend one that does ?

Not really. Wyle, Future, Hamilton, and Arrow tend to be the large ones
I think.

> May be in the US it's easy to
> get hold of an EVM,
> but in Italy the distributor I phoned to, asks an outrageous price for it.

Yeah, I don't understand all the foreign sales/shipping and stuff.
Perhaps there is some foreign exchange rate that is inflating the
price, plus shipping. I'm only a keyboard banging engineer. I'll
forward your email to marketing and see what I can learn.

73,
Tim

## 30. Re: [DSP:850] DSP digest 305

From: Alberto Di Bene <75800340@it.ibm.com>
Date: Fri, 13 Mar 1998 15:57:49 +0000
To: <dsp@tapr.org>
Message-ID: <512002000487253000000 2L202*@MHS>
Rendered body type: text/plain

>I agree that you can very well use a modern desktop CPU to do
>signal processing, but have you been able to do anything useful
>with mmx? I lately tried to "MMXify" the inner loop of the
>FIR filter on my HF software, but didn't succeed.
>Granted, it's cool if you can do 2 muls per cycle, but if you
>need 20 insns before and after to setup/clean up then that's of
>no use. It didn't even reduce register pressure due to
>the lack of a "PADDQ" insn.

On this subject, I found an interesting URL, with assembler source code for an
FFT implemented
using the MMX instruction set. Here it goes :

http://developer.intel.com/drg/mmx/appnotes/ap555.htm

I tried to code an LMS noise-reducing filter, though not with MMX, using standard C language
on a 200 MHz Pentium, and the results are quite promising. At 8 kHz sampling rate, a 48-tap
LMS filter consumes only a few percent of the available CPU time between consecutive samples.
The thoughest part was to have the SoundBlaster card work in full-duplex mode, so to have
realtime filtering, but with the help of the Ethan Brodsky (sp?) routines, and some tweaking, that
also is a problem of the past.

Alberto di Bene, I2PHD
Home page :  http:/www.qsl.net/i2phd

## 31. Re: MMX, etc.

From: dbraun@cadev6.intel.com
Date: Fri, 13 Mar 1998 23:12:05 +0200
To: dsp@tapr.org
Message-ID: <199803141102.AA222173360@cad139.sc.intel.com>
Rendered body type: text/plain

Here is a data point:

The code below executes at 64 MFLOPS on my 200MHz MMX.
(Where each step of the MAC routine counts as 2 FLOPS).
This is compiled with MS Visual C++ 4.0

The code the compiler generates for this seems pretty much
optimum. Doing stuff like using pointers instead of array
indexing does not speed it up...

A EVM does the same thing (basically the MAC instruction) about
30% slower, but of course for fixed-point.

```
#define ARRAYSIZE   200

  static double X[ARRAYSIZE];  // Actually filled with values from 0.0 to 1.0
  static double Y[ARRAYSIZE];  // Actually filled with values from 0.0 to 1.0
  double S;
  int j;

  S = 0.0;
  for(j=0; j<ARRAYSIZE;j++) {
    S += X[j] * Y[j];
  }
```

Doug

## 32. Re: [DSP:851] Re: DSP digest 305

From: dbraun@cadev6.intel.com
Date: Sat, 14 Mar 1998 23:28:16 +0200
To: dsp@tapr.org
Message-ID: <199803151005.AA018526345@cad139.sc.intel.com>
Rendered body type: text/plain

At the same Web site mentioned below, there's actually a bunch of
interesting MMX app notes, including a couple on FIR filters and
vector dot products (really the same thing). In ap557.htm, it is
claimed that two 16-bit MACs (w/ 32-bit result) can be done for
each clock cycle, for 400 million MACs/sec on a 200MHz CPU.

The downside is that the code is very tricky, and you have to be careful
to arrange and align the data structures properly.  And, it uses only
16-bit data, not 24-bit (like the 56002) or floating-point.

Doug
SV/N1OWU

> On this subject, I found an interesting URL, with assembler source cod=
>e for an
>FFT implemented
>using the MMX instruction set. Here it goes :

>
> http://developer.intel.com/drg/mmx/appnotes/ap555.htm

## 33. Re: MMX, etc.

From: Thomas Sailer <sailer@ife.ee.ethz.ch>
Date: Mon, 16 Mar 1998 08:44:42 +0100
To: dsp@tapr.org
Message-ID: <350CD86A.905@ife.ee.ethz.ch>
Rendered body type: text/plain

dbraun@cadev6.intel.com wrote:

> The code below executes at 64 MFLOPS on my 200MHz MMX.
> (Where each step of the MAC routine counts as 2 FLOPS).
> This is compiled with MS Visual C++ 4.0

How did you measure this? Is this including memory accesses
or just from L1 cache? (seems the latter).

Can you provide the asm generated by your compiler?
Your results are pretty coherent with Phil Karns results,
but he had to use assembly and carefully scheduling insns
by hand in an unrolled loop.

Tom

## 34. Re: [DSP:854] Re: MMX, etc.

From: dbraun@cadev6.intel.com
Date: Mon, 16 Mar 1998 04:47:34 -0800
To: dsp@tapr.org
Message-ID: <199803161247.AA020512454@cad139.sc.intel.com>
Rendered body type: text/plain

I ran the loop something like 500000 times, and measured
the elapsed time.  I assume that the data and code were in L1.

I cannot mail the asm right now, becasue I am away from my
machine on a business trip thru next week.  I looked at it, and I remember
that the compiler was smart enought to interleave the FP and
pointer manipulations instructions.

Doug

## 35. Tone detection

From: "Steve Curtis" <ke6scs@hotmail.com>
Date: Mon, 16 Mar 1998 08:34:35 PST
To: dsp@tapr.org
Message-ID: <19980316163435.9467.qmail@hotmail.com>
Rendered body type: text/plain

I'm sort of new to the DSP world. Are there any good methods for using
DSP for tone detection? I would like to detect DTMF and/or subaudible
using a x86 (in assembly) and a soundblaster. This might not be
feasible, but I'd like to explore it.

Steve Curtis
http://www.qsl.net/ke6scs

_____
Get Your Private, Free Email at http://www.hotmail.com

## 36. [DSP:856] Tone detection -Reply

From: Chuen Ming Tan <TANCMING@hitachi.com.my>
Date: Tue, 17 Mar 1998 08:12:22 +0800
To: ke6scs@hotmail.com, dsp@tapr.org
Message-ID: <s50e3078.061@gwsmtp.hisem.com>
Rendered body type: text/plain

I'd like to know the answer too.

Thank you

TCM

## 37. Re: [DSP:856] Tone detection

From: Tim Baggett <tim@aa5df.sps.mot.com>
Date: Mon, 16 Mar 1998 17:36:43 -0600 (CST)
To: dsp@tapr.org
Message-ID: <199803162336.RAA21833@aa5df.dsp>
Rendered body type: text/plain

> I'm sort of new to the DSP world. Are there any good methods for using
> DSP for tone detection? I would like to detect DTMF and/or subaudible
> using a x86 (in assembly) and a soundblaster. This might not be
> feasible, but I'd like to explore it.

Hi Steve,

There are a few methods to detect tones (DTMF) in DSP:

 * matched filter - IIR filtering for each tone & performing a max
 magnitude to detect which tone was received

 * FFT - perform peak searches to identify spectral components received

 * Goertzel algorithm - I believe (help!) this is similar to the FFT
 approach, but it greatly optimizes the FFT algorithm to fit only a few
 tone. i.e., FFT bins are set to encompass the tones you are interested
 in (16 tones for DTMF)

You can probably search the comp.dsp archives and find a ton of
discussions regarding DTMF detecting and the Goertzel algorithm.

'bout the best I can answer right now. Thought I'd throw something out
and get others to bite...

73,
Tim

## 38. Sound discrimination device

From: efbrya - Eric Bryan <efbrya@acxiom.com>
Date: Tue, 17 Mar 1998 15:28:06 -0600
To: "'dsp@tapr.org'" <dsp@tapr.org>
Message-ID: <c=US%a=_%p=Acxiom_Corporati%l=PO-CONWAY-1-980317212806Z-25351@po-conway-1.conway.acxiom.com>
Rendered body type: text/plain

Been reading here for a while and have a problem where the answer may
or may not be a DSP.

I want to build a device to characterize various audible sounds. The
sounds should be easier to distinguish than speech but that is not the
heart of the problem. The problem is this is a battery powered device
and needs to have very low power consumption. This means that either
the DSP has to run at low duty cycles, or much of the data processing
needs to be done in analog circuits. I had investigated using the
filter product for a graphic equilizer display but the power consumption
on that device alone was 17mA. I want to get power consumption for the
whole device under 5mA average. Circuit Cellar recently had a neat
article about a simple speech recognition system that made the incoming
signal into a varying duty cycle square wave and used a micro to count
and time these transitions and match against a table. Problem with that
is the micro has to run constantly eating power. I could do part of this
in an EPLD and get power down. Does anyone have any better suggestions
for a low cost, low power sound discrimination system?

Eric Bryan
efbrya@acxiom.com

## 39. Re: [DSP:841] Re: EVM usage under Linux

From: Jim Lynch <k4gvo@mindspring.com>
Date: Sun, 15 Mar 1998 05:42:28 -0500
To: dsp@tapr.org
Message-ID: <350BB093.B6B872CE@mindspring.com>
Rendered body type: text/plain

Hi, Johan,

I'll be glad to put it on my web page on qsl.net if you want.

Jim.

Johan Forrer wrote:

> Tomi,
>
> >> Pleased to report that I got this Linux-based software for the EVM working
> >> now. It basically is an assembler for the 56002 and a set of utilities to
> >> dowload and debug via the OnCE port. The assembler mostly follows the same
> >> format as the one that came with the EVM - there are a couple of  odd things
> >> to watch out for. I used it to assemble, download, and run one of my EVM
> >> test programs just fine.
> >
> >Very interesting! Where can I find these utilities?
> >
>
> I originally downloaded it from
> ftp://ftp.pfnet.com/pub/m56k/evm56k-0.2.9.tar.gz , but this FTP server does
> not allow guest accounts any longer. Perhaps the code migrated somewhere
> else if you could find it. I tried contacting the author, but got no
> response to my e-mails. Best is if I e-mail what I have to whoever needs it.
> Just re-mail me please (123k for the .tgz file).
>
> 73,
>
> --Johan

--
Jim Lynch           Fayetteville, GA            K4GVO
'86 GL1200I '96 GL1500A

## 40. Re: [DSP:860] Re: EVM usage under Linux

From: John Kuehn <jkuehn@dgsys.com>
Date: Fri, 20 Mar 1998 06:45:00 -0500
To: dsp@tapr.org
Message-ID: <351256B3.1A0E1780@dgs.dgsys.com>
Rendered body type: text/plain

Could you please send me a copy of the
ftp://ftp.pfnet.com/pub/m56k/evm56k-0.2.9.tar.gz  file.

I checked out your QSL.NET web page but could not find it there.

You can either send it directly at this email address, or let me know if you put it
up on your page.

Thanks
John Kuehn N3YYJ

Jim Lynch wrote:

> Hi, Johan,
>
> I'll be glad to put it on my web page on qsl.net if you want.
>
> Jim.
> >
> > I originally downloaded it from
> > ftp://ftp.pfnet.com/pub/m56k/evm56k-0.2.9.tar.gz , but this FTP server does
> > not allow guest accounts any longer. Perhaps the code migrated somewhere
> > else if you could find it. I tried contacting the author, but got no
> > response to my e-mails. Best is if I e-mail what I have to whoever needs it.
> > Just re-mail me please (123k for the .tgz file).
> >
> > 73,
> >
> > --Johan
>
> --
> Jim Lynch           Fayetteville, GA            K4GVO
> '86 GL1200I '96 GL1500A

## 41. Re: [DSP:861] Re: EVM usage under Linux

From: forrerj@peak.org (Johan Forrer)
Date: Fri, 20 Mar 1998 07:29:59 -0800
To: dsp@tapr.org
Message-ID: <199803201531.HAA14111@peak.org>
Rendered body type: text/plain

John,

You can download it from:

ftp://det.bi.ehu.es/pub/ham/evm/Dionne/evm56k-0.2.9.tar.gz

73,

Johan, KC7WW

>Could you please send me a copy of the
>ftp://ftp.pfnet.com/pub/m56k/evm56k-0.2.9.tar.gz  file.
>
>I checked out your QSL.NET web page but could not find it there.
>
>You can either send it directly at this email address, or let me know if
you put it
>up on your page.
>
>Thanks
>John Kuehn N3YYJ
>
>Jim Lynch wrote:
>
>> Hi, Johan,
>>
>> I'll be glad to put it on my web page on qsl.net if you want.
>>
>> Jim.
>> >
>> > I originally downloaded it from
>> > ftp://ftp.pfnet.com/pub/m56k/evm56k-0.2.9.tar.gz , but this FTP server does
>> > not allow guest accounts any longer. Perhaps the code migrated somewhere
>> > else if you could find it. I tried contacting the author, but got no
>> > response to my e-mails. Best is if I e-mail what I have to whoever
needs it.
>> > Just re-mail me please (123k for the .tgz file).
>> >
>> > 73,
>> >
>> > --Johan
>>
>> --
>> Jim Lynch           Fayetteville, GA            K4GVO
>> '86 GL1200I '96 GL1500A
>
>
>
>

## 42. X86 for DSP

From: Douglas Braun <dbraun@iil.intel.com>
Date: Sun, 22 Mar 1998 09:13:50 +0300
To: dsp@tapr.org
Message-ID: <9803220613.AA35692@ilx045.iil.intel.com>
Rendered body type: text/plain

Something to look forward to: In the next year or so, all the X86
CPU vendors (Intel, AMD, Cyrix, etc.) will be introducing new
MMX-style instructions in their new CPU models. The goal is to
accelerate 3-D geometry calculation (as opposed to rendering),
and these new instructions will generally work with FP instead of
integer data. There is a very informative article from Byte
magazine at:

  http://www.byte.com/art/9712/sec5/art2.htm

The downside is that each company has designed their own set of
extensions. The assumption is that APIs like MS's Direct3D will
hide the differences, but for DSP algorithms, you would need
to use the new instructions directly, and the could would
ve CPU-vendor-dependent...

Doug Braun
SV/N1OWU

## 43. Being a Better Educator

```
From: pub@ge.net
Date: Sun, 22 Mar 1998 05:08:41 -0600 (CST)
To: <smcdermo@.calpoly.edu>
Message-ID: <199803221108.FAA14900@tapr.org>
Rendered body type: text/plain
```

Being a Better Educator
Dear educator:

Today, more than ever, we need innovative new solutions to
educational problems.

> "Kevin Kirchman's book Aspirations is an answer
> to education questions such as 'How do we teach
> students to think for themselves, fulfill their
> potential, be creative, gain self esteem, and be
> ready for this productive world?'
>
> "His book is a must for all educators from pre-school
> through graduate school. I wish his book had been
> available during my 42 year teaching career."
>  Norma Silver
>  Retired teacher, Fort Lee, NJ

Introducing,
 Aspirations: The Rational Foundations of Achievement.

The reason it is possible to have an entirely new perspective on
educational issues is because the theory behind education, called
epistemology, or the theory of knowledge, has _not_ been an
empirical
science.

Epistemology is to education what physics is to engineering--
but until the basis was discovered for _principles_ of
understanding,
there could be no science, and no applications that would
radically
transform educational practices.

That is until now.

> "If knowledge of the humanities is subjective, that is,
only
> valid  for the person who holds it, of what value is
> education?
>
> "Knowledge is not subjective. There are some conceptual
> models that are better--more accurate and enlightening--
> than others."
>  Aspirations

Aspirations will show you why, and teach you precisely how to
tell the
difference.

> "[Aspirations] lays out the foundations of clear,
critical
> thinking, that can help us to better understand
ourselves,
> others, and the world around us. In the final analysis,
we are
> all decision makers. Don't make many more important
decisions
> before you read and grasp Aspirations."
>  Frank L. David
>  Co-Principal, Business Learning Centers
>  Murrieta, CA

Perhaps the last earthly frontier, the mind, has been finally
penetrated by this wonderful new book. Aspirations won't give
you old ideas about the mind that you've seen before. It's
radically new.

Aspirations shows how, because of an old philosophical problem,
educators are unwittingly discouraging idea forming habits that
occur through the mental process of induction, or generalization.
The

book shows how these inductive concepts are the basis of all abilities
and character.

Deterring concept formation has the effects of hindering individuality, stifling general competency and causing people to be
more dependent upon the ideas formed by others (being less able to
form them themselves). The book presents a new solution to this dilemma which describes the mental events that occur during concept
formation that can be practiced and made habit.

Aspirations makes it clear that if you are less able to form concepts of your own, you necessarily have to borrow those formed by
others. This discourages individuality, creativity, and self-reliance.
It is also the basis for a host of psychological problems, from prejudice and intolerance to low self-esteem.

Set within the context of human intellectual history, Aspirations stands out as a unique and controversial contribution to our understanding of ourselves.

> Fascinating reading. A journey deep into the corners of the
> mind and down the paths of civilization□s philosophical
> development.

The author of Aspirations, Kevin Kirchman, a Cornell University educated Artificial Intelligence scientist, lecturer and businessman,
has actually utilized his new understanding of innovation to develop
original perspectives on

* deduction, or what reasoning is
* induction, the basis of all innovation and creativity
* character formation

and these new ideas genuinely will aid you not only in teaching better mental habits, but in improving your own.

> "[Aspirations] is a self-motivational book for intelligent
> people."
> Stan Irwin
> The Producer of the Tonight Show
> with Johnny Carson for 15 years

Rarely in human history is a book produced which has as important implications. Rarely is a book offered which gives us such hope and
inspiration.

Aspirations will soon be promoted nationally by Rogers & Cowan, America□s largest public relations firm. Be the first to learn and
apply these revolutionary new insights.

Table of Contents:


1 Introduction
2 The Problem -- Why Educational Philosophy is Psychologically Debilitating
3 Concepts -- The Key to Understanding the Mind
4 Descriptive Concepts -- The Foundation of Clear Thinking
5 Creating Ideas -- Concept Formation is Induction
6 Character -- The Conceptual Origins of Personal Qualities
7 Motivation -- A Theoretical Defense of the Principles of Achievement
8 Reasoning -- A New and Practical Overview
9 Goal Setting and Decision Making -- Giving Yourself a Purpose
10 Deduction -- The Connection Between Logic and Common Sense

```
       11    Reasoning Well -- Applying the New Science of Logic
       12    The Principles of Induction -- New Solutions
                 to a Classical Challenge
       13    Conceptual Modeling -- Coming Up with the Best
                 Concepts
       14    Teaching Induction -- Overcoming the Fear of
                 Abstractions
       15    Philosophical Clarifications -- Understanding
                 the Breakthrough and Replacing Outdated
                 Technology
       16    The New Science of Logic -- Clearing the Way for a
                 Revolution in Rationality
       17    Historical Background and Philosophical Comparison
--
                 Putting the Conceptual Model Theory Into
                 Perspective

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satisfied, return it for a prompt and full refund.

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$4.00 Overseas surface
$10.00 Overseas air

for postage and handling

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                 or faxing to   1 310 854-1840
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        291 S. La Cienega Blvd., Suite 107
        Beverly Hills, CA 90211

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Country _________________________

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Card #  __ __ __ __   __ __ __ __
   __ __ __ __   __ __ __ __

Expiration Date ___________

Signature _____________________________________
```

## 44. remove

```
From: Macart <macart@rogerswave.ca>
Date: Sun, 22 Mar 1998 15:14:51 -0800
To: dsp@tapr.org
Message-ID: <35159B6A.E63699D7@rogerswave.ca>
Rendered body type: text/plain
```

dsp@tapr.org wrote:

```
>                              DSP Digest 314
>
> Topics covered in this issue include:
>
>   1) X86 for DSP
>         by Douglas Braun <dbraun@iil.intel.com>
>
```

> ------------------------------------------------------------------------
>
> Date: Sun, 22 Mar 1998 09:13:50 +0300
> From: Douglas Braun <dbraun@iil.intel.com>
> To: dsp@tapr.org
> Subject: X86 for DSP
> Message-ID: <9803220613.AA35692@ilx045.iil.intel.com>
>
> Something to look forward to: In the next year or so, all the X86
> CPU vendors (Intel, AMD, Cyrix, etc.) will be introducing new
> MMX-style instructions in their new CPU models. The goal is to
> accelerate 3-D geometry calculation (as opposed to rendering),
> and these new instructions will generally work with FP instead of
> integer data. There is a very informative article from Byte
> magazine at:
>
>   http://www.byte.com/art/9712/sec5/art2.htm
>
> The downside is that each company has designed their own set of
> extensions. The assumption is that APIs like MS's Direct3D will
> hide the differences, but for DSP algorithms, you would need
> to use the new instructions directly, and the could would
> ve CPU-vendor-dependent...
>
> Doug Braun
> SV/N1OWU
>
> ------------------------------
>
> End of DSP Digest 314
> **********************



--
"The future belongs to those who believe in the beauty of their dreams."

## 45. Upload of FIRDES: FIR filter coeficients generator

From: Richard Seabrook <Richard_Seabrook@compuserve.com>
Date: Mon, 23 Mar 1998 16:15:25 -0500
To: DSP-TAPR <dsp@tapr.org>
Message-ID: <199803231616_MC2-37BA-C17B@compuserve.com>
Rendered body type: text/plain

Hello all,

I reckon this program may be of interest to the group.

I believe I have to ask Tim to move the files to:
ftp.tapr.org/tapr/SIG/dsp/recent_uploads
if he would be so kind.
---
---
Copy of FIRDES.TXT :

FIRDES(ign) is a small Windows program by DF6JB, Ulrich Bangert,
which can calculate the coefficients of FIR filters. It permits
an (almost) unlimited number of low-pass or high-pass sections
to be incorporated in the same filter and operates with all common
window functions. The coefficients can be output in MOTOROLA , TI
or Matlab format. Operation of the program is hoped to be largely
self explantory however one point that may not be at first obvious
is that in the Plot window, of the filter frequency response one can
set two 'markers' with the left mouse button. These may be erased
by using the 'repaint' button.

A tip for use: A band-pass filter with critical frequencies f1 and
f2 is entered into the program as a combination of a high-pass with
the frequency, f1 and a low-pass with a frequency, f2.

Have fun using the program.

Ulli, DF6JB @ DB0CL


Note from Richard, ON9BCS / G7JMG :

This program first arrived here by packet Summer 96 and now Ulrich
has sent me this later version with Matlab support with his permission

to upload it to TAPR.
It runs fine under Windows95 but I have not tried to run it under
Windows 3.1X
BTW: It is Ulrich who designed the EasyDSP, details of this are at:
http://ourworld.compuserve.com/homepages/HFFAX/toc32.htm
I reckon that 'Abbruch' probably means Cancel in German : )
---
---

regards - Richard ON9BCS / G7JMG

## 46. Re: [DSP:866] Upload of FIRDES: FIR filter coeficients generator

From: Tim Baggett <tim@aa5df.sps.mot.com>
Date: Mon, 23 Mar 1998 17:07:02 -0600 (CST)
To: dsp@tapr.org
Message-ID: <199803232307.RAA25539@aa5df.dsp>
Rendered body type: text/plain

>
> I reckon this program may be of interest to the group.
>
> I believe I have to ask Tim to move the files to:
> ftp.tapr.org/tapr/SIG/dsp/recent_uploads
> if he would be so kind.

Hello Richard,

I have moved the files over.

Someday, soon I hope, I will actually organize the recent_uploads directory into
something more understandable...

Tim

## 47. EVM BIOS bug

From: forrerj@peak.org (Johan Forrer)
Date: Wed, 25 Mar 1998 19:02:23 -0800
To: dsp@tapr.org
Message-ID: <199803260303.TAA12831@peak.org>
Rendered body type: text/plain

Hi all EVM users,

Jim Wilson, WA5BRB, pointed out a possible bug in the EVM low-level bios.

In the port from the ALEFNULL "BOOT" program code to the EVM, I changed the
CODEC's number of words per frame from 16 to 4 and left the BOOT code
intact, however still expecting 16 words per frame in some of the
inilitialization code. For some unknown reason this does not crash the CODEC..

To fix this, look in my original BIOS.asm, or Doug's BIOS2.asm,  for the
label "opencd" and just following that, change the constant for CRA to read
the following.

```
 movep   #$4F03,x:m_cra  ;40MHz/16 = 2.5MHz SCLK, WL=16 bits, 16W/F
```

This is definately a bug, but if it does'nt bother you, just leave it. I
will distribute the fix in future code releases.

Thanks Jim for pointing this out!

--Johan

## 48. test

From: "KA5T Larry Wise" <lewise@inetport.com>
Date: Fri, 06 Mar 1998 16:10:53
To: "TAPR DSP-93 LIST " <dsp-93@tapr.org>
Message-ID: <199803061612.KAA13084@admin.inetport.com>
Rendered body type: text/plain

Larry   KA5T

Georgetown, Texas
lewise@inetport.com

## 49. Wanted EVM

From: William Clinton <dborden@laser.net>
Date: Sun, 08 Mar 1998 07:54:49 -0800

To: dsp-93@tapr.org
Message-ID: <3502BF49.6E33@laser.net>
Rendered body type: text/plain

Does anyone have a DSP56002EVM that they want to get rid of for whatever
price?  Need for new beacon in this area.
David,K8MMO
dborden@laser.net

## 50. Being a Better Educator

From: pub@ge.net
Date: Sun, 22 Mar 1998 04:45:13 -0600 (CST)
To: <smcdermo@.calpoly.edu>
Message-ID: <199803221045.EAA13550@tapr.org>
Rendered body type: text/plain

Being a Better Educator
Dear educator:

Today, more than ever, we need innovative new solutions to
educational problems.

        "Kevin Kirchman's book Aspirations is an answer
        to education questions such as 'How do we teach
        students to think for themselves, fulfill their
        potential, be creative, gain self esteem, and be
        ready for this productive world?'

        "His book is a must for all educators from pre-school
        through graduate school. I wish his book had been
        available during my 42 year teaching career."
                 Norma Silver
                 Retired teacher, Fort Lee, NJ

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The reason it is possible to have an entirely new perspective on
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epistemology, or the theory of knowledge, has _not_ been an
empirical
science.

Epistemology is to education what physics is to engineering--
but until the basis was discovered for _principles_ of
understanding,
there could be no science, and no applications that would
radically
transform educational practices.

That is until now.

        "If knowledge of the humanities is subjective, that is,
only
        valid  for the person who holds it, of what value is
        education?

        "Knowledge is not subjective. There are some conceptual
        models that are better--more accurate and enlightening--
        than others."
                Aspirations

Aspirations will show you why, and teach you precisely how to
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difference.

        "[Aspirations] lays out the foundations of clear,
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        thinking, that can help us to better understand
ourselves,
        others, and the world around us. In the final analysis,
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        all decision makers. Don't make many more important
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        before you read and grasp Aspirations."
                Frank L. David
                        Co-Principal, Business Learning Centers
                        Murrieta, CA

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The
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and character.

Deterring concept formation has the effects of hindering
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It is also the basis for a host of psychological problems, from
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        Fascinating reading. A journey deep into the corners of
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The author of Aspirations, Kevin Kirchman, a Cornell University
educated Artificial Intelligence scientist, lecturer and
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has actually utilized his new understanding of innovation to
develop
original perspectives on

        * deduction, or what reasoning is
        * induction, the basis of all innovation and creativity
        * character formation

and these new ideas genuinely will aid you not only in teaching
better mental habits, but in improving your own.

        "[Aspirations] is a self-motivational book for
intelligent
        people."
                Stan Irwin
                        The Producer of the Tonight Show
                        with Johnny Carson for 15 years

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implications. Rarely is a book offered which gives us such hope
and
inspiration.

Aspirations will soon be promoted nationally by Rogers & Cowan,
America□s largest public relations firm. Be the first to learn
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                Table of Contents:
        1    Introduction
        2    The Problem -- Why Educational Philosophy is
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        3    Concepts -- The Key to Understanding the Mind
        4    Descriptive Concepts -- The Foundation of Clear
                Thinking
        5    Creating Ideas -- Concept Formation is Induction
        6    Character -- The Conceptual Origins of Personal

```
                Qualities
         7    Motivation -- A Theoretical Defense of the
                Principles of Achievement
         8    Reasoning -- A New and Practical Overview
         9    Goal Setting and Decision Making -- Giving
                Yourself a Purpose
        10    Deduction -- The Connection Between Logic and
                Common Sense
        11    Reasoning Well -- Applying the New Science of Logic
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                to a Classical Challenge
        13    Conceptual Modeling -- Coming Up with the Best
                Concepts
        14    Teaching Induction -- Overcoming the Fear of
                Abstractions
        15    Philosophical Clarifications -- Understanding
                the Breakthrough and Replacing Outdated
                Technology
        16    The New Science of Logic -- Clearing the Way for a
                Revolution in Rationality
        17    Historical Background and Philosophical Comparison
--
                Putting the Conceptual Model Theory Into
                Perspective

If, after receiving "Aspirations", you are not completely
satisfied, return it for a prompt and full refund.

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$4.00 Canada
$4.00 Overseas surface
$10.00 Overseas air

for postage and handling

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Organization_____________________________
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_____________________________________
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   __ __ __ __   __ __ __ __

Expiration Date __________

Signature _____________________________
```

## 51. FS: DSP-93

```
From: "Kenneth R. Goodwin, Jr." <kgoodwin@draper.com>
Date: Sun, 22 Mar 1998 07:44:18 -0600
To: dsp-93@tapr.org
Message-ID: <3.0.5.32.19980322074418.007e8240@simba.jsc.draper.com>
Rendered body type: text/plain
```

It seems that I am never going to get around to assembling my DSP-93
(grad school does things like that), thus I am selling my "un-touched"
kit (transformer model, Rev 2) and a brand new PacComm TNC-DSP93
for $290 (postpaid within continential US). Package deal only.
Please contact Ken Goodwin, K5RG at mrgmsc@hal-pc.org, this account
or 281-333-2636 (home), 281-483-8244 (work), 281-483-9110 (fax).

Where did that educator book spam come from??

## 52. Re: [DSP-93:2644] DSP-93 digest 615

From: Macart <macart@rogerswave.ca>
Date: Tue, 24 Mar 1998 14:16:27 -0800
To: dsp-93@tapr.org
Message-ID: <351830BB.9F55CC3D@rogerswave.ca>
Rendered body type: text/plain

please take me off your mailing list

dsp-93@tapr.org wrote:

> DSP-93 Digest 615
>
> Topics covered in this issue include:
>
> 1) FS: DSP-93
> by "Kenneth R. Goodwin, Jr." <kgoodwin@draper.com>
>
> ---
>
> Date: Sun, 22 Mar 1998 07:44:18 -0600
> From: "Kenneth R. Goodwin, Jr." <kgoodwin@draper.com>
> To: dsp-93@tapr.org
> Subject: FS: DSP-93
> Message-ID: <3.0.5.32.19980322074418.007e8240@simba.jsc.draper.com>
>
> It seems that I am never going to get around to assembling my DSP-93
> (grad school does things like that), thus I am selling my "un-touched"
> kit (transformer model, Rev 2) and a brand new PacComm TNC-DSP93
> for $290 (postpaid within continential US). Package deal only.
> Please contact Ken Goodwin, K5RG at mrgmsc@hal-pc.org, this account
> or 281-333-2636 (home), 281-483-8244 (work), 281-483-9110 (fax).
>
> Where did that educator book spam come from??
>
> ------------------------------
>
> End of DSP-93 Digest 615
> **********

--
"The future belongs to those who believe in the beauty of their dreams."

## 53. Re: [DSP-93:2645] Re: DSP-93 digest 615

From: Robert Winingham <kc5ejk@onramp.net>
Date: Tue, 24 Mar 1998 20:23:57 -0600
To: dsp-93@tapr.org
Message-ID: <v03102800b13e1ad55b98@[206.50.200.84]>
Rendered body type: text/plain

>please take me off your mailing list
>
>
>
>
>--
>"The future belongs to those who believe in the beauty of their dreams."

www.aprs.org

sig area

click the remove box

73

Bob - Dallas,TX ---  kc5ejk@onramp.net  or  kc5ejk@amsat.org  ---

# April 1998

Original source file: dsp.9804
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/dspsig/mail_archive/dsp.9804

## 1. WinNT & Win95 API

From: "Fernando M. I. Carreiro" <carreiro.fmi@mail.telepac.pt>
Date: Wed, 1 Apr 1998 15:36:21 +0100
To: <dsp@tapr.org>
Message-ID: <199804011539.PAA17849@tpone.telepac.pt>
Rendered body type: text/plain

I've been following the recent string of messages and notice some people were interested in the Win API for use in DSP, but no one realy came up with the info. It was in respect to the follow statements:

> Doug Braun wrote:
> > are reasonably good APIs in Win 95 and NT, and lots of books,
> > etc. on the subject.

Well, here is the info:

The API details are officially available from Microsoft on the Online Version of the MSDN Library: "http:\\www.microsoft.com\msdn\" You are required to register in order to use the library but is is free of charge. It includes full online documentation and you can download from several elements in the Platform SDK's which include Header files, Link libraries and samples. For DSP work using the sound cards, the is a Multimedia Section of the Platform SDK. You can also purchase the full library on CD's. There several levels of the library and depending on your requirements, it may be usefull tool to have handy for Win32 Development of any kind.

You can also find these API details and headers in the compiler software such as Borland C++, Microsoft Visual C++ & Microsoft Visual Basic as well as many other conpilers.

If have been using these API for DSP work in several areas, even on 486 Machines. To trick is to code efeciently and be imaginative. I have solved many DSP problems by making use of unconventiona methode instead of the standard FFT, FIR, etc. Methods such as pattern matching, graphical equivalets and Wavelets.

Hope the information has been usefull. I don't always follow the mail list, so if you require any other info, drop me an E-Mail message.

---
Fernando M. I. Carreiro (ZS6BLF)
carreiro.fmi@mail.telepac.pt

## 2. Re: [DSP:869] WinNT & Win95 API

From: dbraun@cadev6.intel.com
Date: Wed, 01 Apr 1998 22:33:15 +0300
To: dsp@tapr.org
Message-ID: <199804011935.AA062269329@cad139.sc.intel.com>
Rendered body type: text/plain

When I bought Visual C++ (Professional Edition) it came
with a MSDN CD-ROM.  I stick it in the drive whenever I start
doing any programming...

There is a LOT of stuff on it, and it took me a couple of
hours just to find all the relevant stuff.

Doug

>       The API details are officially available from Microsoft on the Online
>Version of the MSDN Library: "http:\\www.microsoft.com\msdn\" You are
>required to register in order to use the library but is is free of
>charge. It includes full online documentation and you can download from
>several elements in the Platform SDK's which include Header files, Link
>libraries and samples. For DSP work using the sound cards, the is a
>Multimedia Section of the Platform SDK. You can also purchase the full
>library on CD's. There several levels of the library and depending on
>your requirements, it may be usefull tool to have handy for Win32
>Development of any kind.

## 3. ADSP-21xx family assembler for Linux

From: forrerj@peak.org (Johan Forrer)
Date: Thu, 02 Apr 1998 08:28:25 -0800
To: DSP@tapr.org
Message-ID: <199804021630.IAA01619@peak.org>
Rendered body type: text/plain

Hi all,

I posted the first rough cut at a native ADSP 21xx Linux assembler on my web
page. It was used in conjunction with a DSP sound card article that I did
way back in 1994.

The assembler isnt much to boast about and definately needs further work,
but does generate valid code and will help out if you are desperate for a
Linux-based assembler for this DSP chip.

Have fun - 73,

--Johan

http://www.peak.org/~forrerj

## 4. Release of Version 1.0 of PSK31 for the Texas C50 DSK.

From: Eduardo Jacob <jtpjatae@bicc00.bi.ehu.es>
Date: Fri, 03 Apr 1998 12:45:50 +0200
To: psk31@bipt106.bi.ehu.es
Message-ID: <3.0.5.32.19980403124550.0080b690@bicc00.bi.ehu.es>
Rendered body type: text/plain

There is a new release of the Texas C50 PSK31 Terminal. It supports Viterbi
coding and QPSK modulation. These are the changes:

Changes since the Beta release:
* Serial port interrupt bug fixed: this caused the program to stop
  communicating with the DSK. (Didn't happen under Win3.x/Win95).
* Control of PTT via RTS line added.
* F5 key for auto-CQ now shown on display. Auto-CQ bug fixed.
* Faster tuning control (10 Hz steps with Ctrl+arrow keys)
* Tuning display direction of rotation changed (TAKE NOTE!)
* File send (F6) legend no longer shows 'on' or 'off'.
* Documentation updated.

As usual it's available at ftp://det.bi.ehu.es/pub/ham/psk31/psk31c50_r1.zip

If you want to know more about PSK31, please take a look at
http://aintel.bi.ehu.es/psk31.html

        Eduardo/EA2BAJ
------------------------------------------------------------------
Eduardo Jacob - Area de Ingenier'ia Telem'atica
Departamento de Electr'onica y Telecomunicaciones
ETSII y de IT               Tel: +34-(9)4-427 8055
UPV / EHU                   Fax: +34-(9)4-441 4041
Alda Urquijo s/n         E-mail: jtpjatae@bi.ehu.es
E-48013 - Bilbao (Spain)       : edu@kender.es
Ham: EA2BAJ          VHF PACKET: EA2BAJ @ EA2URV
PGP Key available: Send email w/subject: PGPKEY
fingerprint      : D8 FA 54 49 F7 40 BA AA 09 1A 73 40 A4 26 ED BD

## 5. ADSP-21xx family assembler for Linux

From: forrerj@peak.org (Johan Forrer)
Date: Fri, 03 Apr 1998 08:29:38 -0800
To: dsp@tapr.org
Message-ID: <199804031631.IAA26694@peak.org>
Rendered body type: text/plain

Hi all,

Not sure whether this message made it to the list. My apologies if it is a
repeat.

 ---------------------------------000---------------------------------

I posted the first rough cut at a native ADSP 21xx Linux assembler on my web
page. It was used in conjunction with a DSP sound card article that I did
way back in 1994.

The assembler isnt much to boast about and definately needs further work,
but does generate valid code and will help out if you are desperate for a
Linux-based assembler for this DSP chip.

Have fun - 73,

--Johan

See http://www.peak.org/~forrerj

## 6. Off topic: Z85C30 x Z80230

From: "Marcelo Puhl" <mark@plug-in.com.br>
Date: Fri, 3 Apr 1998 19:23:15 -3
To: dsp@tapr.org
Message-ID: <199804032226.TAA00391@bigbox.plug-in.com.br>
Rendered body type: text/plain

Hello,

I'm designing a SCC board and would like to know what would be
the advantages of using a Z80230 in place of the well known
Z85C30.

Also if there are advantages in replacing the existing Z85C30
SCC by the new Z80230 ESCC in a Baycom USCC card.

Thanks for any help.

---
Marcelo Puhl - PY3SS
mark@plug-in.com.br
marcelo@ee.pucrs.br

## 7. Re: [DSP:874] Off topic: Z85C30 x Z80230

From: Thomas Sailer <sailer@ife.ee.ethz.ch>
Date: Mon, 06 Apr 1998 14:21:00 +0200
To: dsp@tapr.org
Message-ID: <3528C8AC.5749@ife.ee.ethz.ch>
Rendered body type: text/plain

Marcelo Puhl wrote:

> I'm designing a SCC board and would like to know what would be
> the advantages of using a Z80230 in place of the well known
> Z85C30.
>
> Also if there are advantages in replacing the existing Z85C30
> SCC by the new Z80230 ESCC in a Baycom USCC card.

Erm, does it really have to be Zilog? Cirrus Logic has a nice
PCI HDLC controller, the CL-CD4400, which has 4 high speed
channels, PCI busmaster DMA, and even an ARM7 core on chip.
And it should be competitively priced...

Another nice HDLC controller chip is the Hitachi SCA-II
(HD64572). It has 2 channels and a busmaster DMA controller.
The bus is a general purpose microcontroller bus,
so with some glue logic you should be able to make a card
that does ISA busmaster DMA.

The Zilog 230 is said to have a larger FIFO and a better
DMA controller, however I haven't found out (from the Zilog
datasheet) how one would know the frame starts/ends from
DMA'ed data... If you find out per chance how this is supposed
to work (and how you can do back to back frame transfer without
excessive interrupt latency requirements), then let us know!

Tom

## 8. Windows soundcard FFT software

From: Ken Harris <kjh@surf.shoreline-studios.com>
Date: Wed, 08 Apr 1998 13:29:46 -0700
Cc: dsp@tapr.org
Message-ID: <352BDE3A.41C6@shoreline-studios.com>
Rendered body type: text/plain

I'm looking for a simple Win95 based program that will
take input from a soundcard and display it in the frequency
domain ("waterfall" or FFT diagram).

        Bandwidth needed is small : say 5Khz (10Khz sample),
mono is OK.

---
Ken J. Harris   voice:  650/969-7896 x 15       fax: 650/969-7864

mailto:kjh@shoreline-studios.com    http://www.shoreline-studios.com
snail mail: 1804 N. Shoreline Blvd, Ste 240, Mountain View, CA 94043
_/)_/)_/)

## 9. Re: [DSP:876] Windows soundcard FFT software

From: Charles Brain <chbrain@dircon.co.uk>
Date: Wed, 08 Apr 1998 22:37:45 +0100
To: dsp@tapr.org
Message-ID: <352BEE29.D5D7E364@dircon.co.uk>
Rendered body type: text/plain

Ken Harris wrote:
>
> I'm looking for a simple Win95 based program that will
> take input from a soundcard and display it in the frequency
> domain ("waterfall" or FFT diagram).
>
>         Bandwidth needed is small : say 5Khz (10Khz sample),
> mono is OK.
>
> ---
> Ken J. Harris   voice:  650/969-7896 x 15       fax: 650/969-7864
> mailto:kjh@shoreline-studios.com    http://www.shoreline-studios.com
> snail mail: 1804 N. Shoreline Blvd, Ste 240, Mountain View, CA 94043
> _/)_/)_/)

A suitable program is

ftp.simtel.net/pub/simtelnet/win95/sound/gram412.zip

- Charles G4GUO

## 10. Re: [DSP:816] Re: DSP digest 292

From: "Negaso Gidada" <bikila@hotmail.com>
Date: Thu, 09 Apr 1998 10:14:36 PDT
To: dsp@tapr.org
Message-ID: <19980409171436.16964.qmail@hotmail.com>
Rendered body type: text/plain

Hello,
I am a student at the University of Illinois @ Urbana. I will be
graduating in August of 98 and looking for a job in DSP and
communications. If anyone can help me, please email me
N.G
Thank You

_____
Get Your Private, Free Email at http://www.hotmail.com

## 11. Re: [DSP:876] Windows soundcard FFT software

From: "Dane Robinson" <Karor@worldnet.att.net>
Date: Sat, 11 Apr 1998 10:39:53 -0500
To: <dsp@tapr.org>
Message-ID: <19980411154813.AAA19703@homeservent>
Rendered body type: text/plain

Wave for Windows has the type display you are looking for.

----------
> From: Ken Harris <kjh@surf.shoreline-studios.com>
> To: dsp@tapr.org
> Subject: [DSP:876] Windows soundcard FFT software
> Date: Wednesday, April 08, 1998 3:34 PM
>
> I'm looking for a simple Win95 based program that will
> take input from a soundcard and display it in the frequency
> domain ("waterfall" or FFT diagram).
>
>       Bandwidth needed is small : say 5Khz (10Khz sample),
> mono is OK.
>
> ---
> Ken J. Harris voice:  650/969-7896 x 15       fax: 650/969-7864
> mailto:kjh@shoreline-studios.com    http://www.shoreline-studios.com
> snail mail: 1804 N. Shoreline Blvd, Ste 240, Mountain View, CA 94043
> _/)_/)_/)

## 12. ATTENTION: ALL CURRENT AND PROSPECTIVE USERS OF MOTOROLA 563xx DSPs (fwd)

From: Greg Jones <wd5ivd@tapr.org>
Date: Mon, 13 Apr 1998 22:21:21 -0500 (CDT)
To: dsp@tapr.org (TAPR/AMSAT DSP)
Message-ID: <199804140321.WAA09860@tapr.org>
Rendered body type: text/plain

FYI -- Greg

Forwarded message:
>From wrs@mail2.dspnet.com Mon Apr 13 18:44:24 1998
Date: Mon, 13 Apr 1998 20:34:30 -0400
From: Wind River Systems <wrs@mail2.dspnet.com>
Message-Id: <199804140034.UAA14553@mail2.dspnet.com>
Subject: ATTENTION: ALL CURRENT AND PROSPECTIVE USERS OF MOTOROLA 563xx DSPs
Apparently-To: wd5ivd@tapr.org

Save weeks, even months, of development time on your next project with
Tornado for DSP.  Visit Wind River Systems at booth #316 at DSP World
Spring.

A powerful, integrated development environment, Tornado for DSP offers
you:
*  An arsenal of powerful, productivity-enhancing tools that work
    together seamlessly
*  An open API, so you can easily incorporate tools created in-house or
    by other vendors
*  The tiny yet full-featured WiSP microkernel -- specifically created
    for the 563xx family of DSPs
*  Your choice of host-target connection
*  The security of industry-leading, proven Wind River technology
*  The freedom to add value to your DSP applications where it matters

Why struggle with primitive or nonexistent development tools when you
can harness the power of Wind River's Tornado?  Or tie up your valuable
design resources creating and maintaining one or more homegrown
operating systems when you can leverage the expertise of the RTOS
industry leader?

The Wind River advantage is even more compelling if your design
incorporates both a Motorola 563xx DSP and a general-purpose processor:
the powerful Tornado environment is consistent across both platforms.

So if you're using or considering a design that features the 563xx
family, come talk to us at booth 316 at the DSP World Spring show. You
owe it to yourself.

## 13. Re: [DSP:875] Re: Off topic: Z85C30 x Z80230

From: "Alton Teague" <rocketman@basinlink.com>
Date: Fri, 17 Apr 1998 21:55:20 -0600
To: dsp@tapr.org
Message-ID: <19980417214331.6c98c7e0.in@mail.texasonline.net>
Rendered body type: text/plain

> Marcelo Puhl wrote:
>
> > I'm designing a SCC board and would like to know what would be
> > the advantages of using a Z80230 in place of the well known
> > Z85C30.
> >
> > Also if there are advantages in replacing the existing Z85C30
> > SCC by the new Z80230 ESCC in a Baycom USCC card.
>
(snip)

> The Zilog 230 is said to have a larger FIFO and a better
> DMA controller, however I haven't found out (from the Zilog
> datasheet) how one would know the frame starts/ends from
> DMA'ed data... If you find out per chance how this is supposed
> to work (and how you can do back to back frame transfer without
> excessive interrupt latency requirements), then let us know!

Simple - use the Z80182 processor which contains the 230 on-chip, and make the
frame end interrupt a high priority. Unless you are running a really high frame
data rate (which won't happen on packet radio), there is plenty of time to have
the interrupt service routine set the DMA to a new memory block for whatever
might come in while the current frame is being worked on - or just save the
pointer for the first and last octet in the frame whose interrupt you are
servicing.

Since it's all in assembly language anyway, it's plenty fast. Well, at least at

9600    baud which is the fastest I've played with it so far.

-73- de N5PSP  - Alton

"We hold these truths to be self-evident, that all men are created
equal; that they are endowed by their Creator with certain
inalienable rights, and among them are Life, Liberty, and the Pursuit
of Happiness."

## 14. Re: [DSP:861] Re: EVM usage under Linux

From: Jim Lynch <k4gvo@mindspring.com>
Date: Mon, 20 Apr 1998 05:33:31 -0400
To: dsp@tapr.org
Message-ID: <353B166A.FA73C487@mindspring.com>
Rendered body type: text/plain

John, I'm sorry, but this message got buried in a email storm and I didn't uncover it
until now.  I don't have a copy of the file.  I was asking Johan if he wanted me to put
a copy on my web page and I guess I didn't make it clear that he would have to send it
to me also.

Sorry,  I hope you found it eventually.

Jim.

John Kuehn wrote:

> Could you please send me a copy of the
> ftp://ftp.pfnet.com/pub/m56k/evm56k-0.2.9.tar.gz  file.
>
> I checked out your QSL.NET web page but could not find it there.
>
> You can either send it directly at this email address, or let me know if you put it
> up on your page.
>
> Thanks
> John Kuehn N3YYJ
>
> Jim Lynch wrote:
>
> > Hi, Johan,
> >
> > I'll be glad to put it on my web page on qsl.net if you want.
> >
> > Jim.
> > >
> > > I originally downloaded it from
> > > ftp://ftp.pfnet.com/pub/m56k/evm56k-0.2.9.tar.gz , but this FTP server does
> > > not allow guest accounts any longer. Perhaps the code migrated somewhere
> > > else if you could find it. I tried contacting the author, but got no
> > > response to my e-mails. Best is if I e-mail what I have to whoever needs it.
> > > Just re-mail me please (123k for the .tgz file).
> > >
> > > 73,
> > >
> > > --Johan
> > >
> > --
> > Jim Lynch           Fayetteville, GA            K4GVO
> > '86 GL1200I '96 GL1500A



--
Jim Lynch           Fayetteville, GA            K4GVO
'86 GL1200I '96 GL1500A

## 15. [DSP:805] Updated version of DSPBOX

From: 758003@kf9ug.#nin.in.usa.noam
Date: 15 Feb 98 22:15:00 GMT
To: dsp@tapr.org
Message-ID: <48283758003@fwa.bbs>
Rendered body type: text/plain

R:980215/2215z @:KF9UG.#NIN.IN.USA.NOAM [EN71LD] #:83779 $:48283758003 Z:46835

I have just uploaded to /tapr/SIG/dsp/upload an amended version of DSPB=
OX.
The previous one had problems with fast Pentium machines.

```
Could please the site administrator move it to the right place ? Thanks=
..

It is also possible to download it from my page :
   http://www.qsl.net/i2phd

In case you don't know, DSPBOX is a program for the Texas 'C50 DSK,
to make it behave as a noise-reducing, multiple-notch, band-pass-filter=
ing
unit. Comments and impressions are welcome.

Alberto di Bene, I2PHD        i2phd@qsl.net
=
```

## 16. [DSP:806] Win95/NT GUI for 56K EVM and Simulator

```
From: eparth@kf9ug.#nin.in.usa.noam
Date: 17 Feb 98 13:54:00 GMT
To: dsp@tapr.org
Message-ID: <5075eparth@fwa.bbs>
Rendered body type: text/plain
```

```
R:980217/1354z @:KF9UG.#NIN.IN.USA.NOAM [EN71LD] #:84812 $:5075eparth Z:46835

------ =_NextPart_000_01BD3BA7.22DBF6A0
Content-Type: text/plain; charset="us-ascii"
Content-Transfer-Encoding: 7bit

Hello,

hope nobody sees this as an intrusion (my appologies in this case).

We wrote a Win95/NT graphical userinterface for the Motorola
EVM56002/4/7 and the simulator. This program is available for free
(currently in beta test).

If You want to try it point Your browser to:

http://members.telecom.at/~erpar

Go to the products page and look for DSP56Kbug.

Please let us know all bugs/problems You find.

best regards

ernst parth

------ =_NextPart_000_01BD3BA7.22DBF6A0
Content-Type: application/ms-tnef
Content-Transfer-Encoding: base64

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AA8OAAAAAAIB/w8BAAAANwAAAAAAAACBKx+kvqMQGZ1uAN0BD1QCAAAAAGRzcEB0YXByLm9yZwBT
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c3BAdGFwci5vcmcAAAAAgH3XwEAAAA3AAAAAAAAAAIErH6S+oxAZnW4A3QEPVAIAAAAAZHNwQHRh
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KVdFV1JPVEVBV0lOOTUvTlRHUkFQSElDQUxVU0VSSU5URVJGQUNFRgAAAAACAQkQAQAAAB8CAAAb
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GMAX4E0XHPAFsAbwYRb0RVZNADU2MDAyLzQvmjcZMWQfkwCQbXULYG0gAS4RoBjScANgHeFt+xlg
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KmoU9QLREKHwczE4IASRNcEKsRjACxb6EjEAOfAAAwAQEAAAAAADABEQAAAAAAMAgBD/////QAAH
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```

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AAAAAABGAAAAAAGFAAAAAAAACwAwgAggBgAAAAAAwAAAAAAAEYAAAAADoUAAAAAAAADADGACCAG
AAAAAADAAAAAAAAARgAAAAARhQAAAAAAAAMAM4AIIAYAAAAAAMAAAAAAAABGAAAAABiFAAAAAAAA
HgBCgAggBgAAAAAAwAAAAAAAEYAAAAANoUAAAEAAAABAAAAAAAAAB4AQ4AIIAYAAAAAAMAAAAAA
AABGAAAAADeFAAABAAAAAQAAAAAAAAeAESACCAGAAAAAADAAAAAAAAARgAAAAA4hQAAAQAAAEA
AAAAAAAAHgA9AAEAAAABAAAAAAAAAAMADTT9NwAAxho=

------ =_NextPart_000_01BD3BA7.22DBF6A0--

## 17. [DSP:807] FW: Win95/NT GUI for 56K EVM and Simulator

From: eparth@kf9ug.#nin.in.usa.noam
Date: 17 Feb 98 14:12:00 GMT
To: dsp@tapr.org
Message-ID: <34290eparth@fwa.bbs>
Rendered body type: text/plain

R:980217/1412z @:KF9UG.#NIN.IN.USA.NOAM [EN71LD] #:84816 $:34290eparth Z:46835

Hello,

hope nobody sees this as an intrusion (my appologies in this case).

We wrote a Win95/NT graphical userinterface for the Motorola
EVM56002/4/7 and the simulator. This program is available for free
(currently in beta test).

If You want to try it point Your browser to:

http://members.telecom.at/~erpar

Go to the products page and look for DSP56Kbug.

Please let us know all bugs/problems You find.

best regards

ernst parth

## 18. [DSP:808] Digital Signal Processing and Hurricanes

From: kg5qd@kf9ug.#nin.in.usa.noam
Date: 19 Feb 98 12:56:00 GMT
To: dsp@tapr.org
Message-ID: <15673kg5qd@fwa.bbs>
Rendered body type: text/plain

R:980219/1256z @:KF9UG.#NIN.IN.USA.NOAM [EN71LD] #:86143 $:15673kg5qd Z:46835

Hi All- February 7th I attended the Third Annual Amateur Radio
Conference at the National Hurricane Center in Miami with hams from all
over the Caribbean in attendance.  There is a Project (just getting off
the ground) funded by the Nation Weather Service and the National Fish
and Wildlife Foundation to set-up low cost weather stations across the
Caribbean, with the data to return to the hurricane center via APRS
packet.  The preliminary plans are to have "off the shelf" equipment to
keep the cost down and reliability up.  Outlying areas would send data
to "hubs" via VHF and hubs to the hurricane center via HF- internet-
satellite etc.

        My questions are:
1. Is there an existing DSP tnc that code optimized for aprs length
packets could be put into the firmware, and what improvements in range
could be expected?
2. Could 2 Meter or 6 meter side band be used for medium haul (200 - 400
miles) hub to hub communication with some dsp help? ( I have heard third
hand that Paccom tried vhf sideband with results not encouraging)
3. What help could DSP be at 30 meters for the Hurricane center
reception of packets? Since we are not talking about a great deal of
info- the baud rate would not have to be 300 baud.

Any help would be appreciated

73 de Dale kg5qd Collier County Florida Skywarn

## 19. [DSP:810] AX.25 encapsulation

From: chbrai@kf9ug.#nin.in.usa.noam
Date: 22 Feb 98 12:06:00 GMT
To: dsp@tapr.org

Message-ID: <46938chbrai@fwa.bbs>
Rendered body type: text/plain

R:980222/1206z @:KF9UG.#NIN.IN.USA.NOAM [EN71LD] #:95872 $:46938chbrai Z:46835

Hello All,

Does anyone have any suggestions on the best way to
encapsulate digital speech in an AX.25 frame. I am
looking at ways of sending digital speech over AX.25.

Unfortunatly my simple Vocoder produces 7 byte frames every
22.5 ms which don't fit well with the AX.25 model. Some
buffering will be required.

I notice there appears to be an Internet protocol called
VAT (?) that encapsulates speech but adds quite a lot of
overhead.

Also the TDMA structure of GSM doesn't fit either, I don't want
to have to re-write AX.25 to include random access times slots
etc.

Any suggestions?

I can't proceed with what I am doing until I sort this one out!

- Charles G4GUO

## 20. [DSP:809] Re: Digital Signal Processing and Hurricanes

From: no@kf9ug.#nin.in.usa.noam
Date: 19 Feb 98 22:11:00 GMT
To: dsp@tapr.org
Message-ID: <13996no@fwa.bbs>
Rendered body type: text/plain

R:980219/2211z @:KF9UG.#NIN.IN.USA.NOAM [EN71LD] #:87179 $:13996no Z:46835

I believe this is happening every day. If the Haitian stations were
sending weather data, it would be there on 30M for all to see.

I use a MFJ 1278B DSP multi-mode controller, if that helps!

NVIS propagation, 40M, U/VHF, 30M and gateways would do the job.
Although the frequency used is up to what is available locally, it
really doesn't matter as long as it, and the propagation, is
appropriate. 20M is a good bet also since anything heard from the Carib
in, say North Dakota, could be repeated. Don't forget the Internet
servers.

73, Tony


Dale Huguley wrote:

>         My questions are:
> 1. Is there an existing DSP tnc that code optimized for aprs length
> packets could be put into the firmware, and what improvements in range
> could be expected?
> 2. Could 2 Meter or 6 meter side band be used for medium haul (200 - 400
> miles) hub to hub communication with some dsp help? ( I have heard third
> hand that Paccom tried vhf sideband with results not encouraging)
> 3. What help could DSP be at 30 meters for the Hurricane center
> reception of packets? Since we are not talking about a great deal of
> info- the baud rate would not have to be 300 baud.
>
> Any help would be appreciated
>
> 73 de Dale kg5qd Collier County Florida Skywarn

## 21. [DSP:811] Re: AX.25 encapsulation

From: tom.ki@kf9ug.#nin.in.usa.noam
Date: 23 Feb 98 02:58:00 GMT
To: dsp@tapr.org
Message-ID: <45810tom@fwa.bbs>
Rendered body type: text/plain

R:980223/0258z @:KF9UG.#NIN.IN.USA.NOAM [EN71LD] #:97369 $:45810tom Z:46835

At 05:23 AM 2/22/98 -0600, you wrote:
>Hello All,
>
>Does anyone have any suggestions on the best way to
>encapsulate digital speech in an AX.25 frame. I am
>looking at ways of sending digital speech over AX.25.
>
>Unfortunatly my simple Vocoder produces 7 byte frames every
>22.5 ms which don't fit well with the AX.25 model. Some
>buffering will be required.

In 1987 I saw speech sent over AX.25 using UDP protocol however it did
required
a 56kb stream.  It sounds like with only 22.5ms/frame you'll have to use
something about as fast.  I'm not sure of the Vocoder being used then.

Another possibility is using Unconnected Protocol( beacon type packets)
because another sample will be coming right behind the last one and if the
first one arrives after the second one it is really useless.

UDP has routing if that is necessary to get the packet to where it is going
and AX.25
Unconnected Protocol does allow for "digipeating" if you have to go more
than one hop
however neither protocol can guarantee a smooth uninterrupted stream of
data to arrive
at the other end to sound like the originator.

Tom King
KA6SOX

## 22. [DSP:818] Re: DSP digest 292

From: forrer@kf9ug.#nin.in.usa.noam
Date: 28 Feb 98 01:20:00 GMT
To: dsp@tapr.org
Message-ID: <2799forrer@fwa.bbs>
Rendered body type: text/plain

R:980228/0120z @:KF9UG.#NIN.IN.USA.NOAM [EN71LD] #:3572 $:2799forrer Z:46835

Hi,

Matlab's student edition can be purchased at academic book stores for under
$100. It's crippled in that they limit the size of matrices and vectors.
Though, I must admit that I still use it for almost all the stuff I do. If
you are interested in a full version, that runs around $1800, and if you
want all the bells and whistles, that sells for around $7000. Not sure how
deep your pockets are, but certainly out of reach for me.

Like most competitive software, Matlab is in constant state of change;  the
FIR/IIR design package that I mentioned in an earlier posting, does not work
on anything less than version 4.2, as I sadly have found out. The reason is
that they added some nifty functions to the signal processing toolbox to
estimate FIR/IIR filter orders from user-specified ripple and stop-band
input. Those are not available in the earlier versions of the Matlab toolbox
and thus you will have trouble getting the free filter design package to
work as it needs those functions.

Octave is a possiblity, though I'm not sure whether it has the GUI functions
and all those new signal processing functions. Certainly is worth a try -
I'll be most interested to hear if anyone has had good luck with that.

73

--Johan, KC7WW


>
>On Fri, 27 Feb 1998, Thomas M. Alldread wrote:
>
>> Greetings:
>>
>>      I am wonder if the MathWorks MATLAB software package is within my hobby
>> budget limits. Does anyone know how much the package costs for individual
>> use?
>
>What about using octave?
>
>hth

>
>carles
>
>
>

## 23. [DSP:814] Re: AX.25 encapsulation

From: chbrai@kf9ug.#nin.in.usa.noam
Date: 23 Feb 98 12:00:00 GMT
To: dsp@tapr.org
Message-ID: <39113chbrai@fwa.bbs>
Rendered body type: text/plain

R:980223/1200z @:KF9UG.#NIN.IN.USA.NOAM [EN71LD] #:98373 $:39113chbrai Z:46835

dbraun@cadev6.intel.com wrote:
>
> There are several examples of speech compression that work with a
> 9600 BPS or less bandwidth. But I doubt it is worth trying to
> port the algorithms to the EVM. I think it would be better to do
> the ADC/DAC and encoding/decoding in a soundcard- equipped PC,
> and use the EVM just as a modem.
>
> Doug
> SV/N1OWU

Yes I know!

I managed to get a simple LPC10 vocoder going, but that used up about
2/3 of the available Flash memory.

Most of the time I spent involved trying to get floating point maths
to work on a fixed point processor. Also the intermediate
results of the Durbin-Levinson algorithm kept overflowing!
I won't be doing that again!

For any of the more complex schemes that require codebooks there
just isn't enough space on the EVM.

I am now looking at the PC/souncard approach. There are a few
shareware packages out there, they all use standard Vocoders
from the comp.speech archive.

- Charles

## 24. [DSP:813] Re: AX.25 encapsulation

From: dbraun@kf9ug.#nin.in.usa.noam
Date: 23 Feb 98 11:13:00 GMT
To: dsp@tapr.org
Message-ID: <22965dbraun@fwa.bbs>
Rendered body type: text/plain

R:980223/1113z @:KF9UG.#NIN.IN.USA.NOAM [EN71LD] #:98276 $:22965dbraun Z:46835

There are several examples of speech compression that work with a
9600 BPS or less bandwidth. But I doubt it is worth trying to
port the algorithms to the EVM. I think it would be better to do
the ADC/DAC and encoding/decoding in a soundcard- equipped PC,
and use the EVM just as a modem.


Doug
SV/N1OWU

## 25. [DSP:817] Re: DSP digest 292

From: perell@kf9ug.#nin.in.usa.noam
Date: 27 Feb 98 19:07:00 GMT
To: dsp@tapr.org
Message-ID: <41432perell@fwa.bbs>
Rendered body type: text/plain

R:980227/1907z @:KF9UG.#NIN.IN.USA.NOAM [EN71LD] #:2644 $:41432perell Z:46835

On Fri, 27 Feb 1998, Thomas M. Alldread wrote:

> Greetings:
>
>       I am wonder if the MathWorks MATLAB software package is within my hobby

> budget limits. Does anyone know how much the package costs for individual
> use?

What about using octave?

hth

carles

## 26. [DSP:815] FIR/IIR Filter design package

From: forrer@kf9ug.#nin.in.usa.noam
Date: 25 Feb 98 20:01:00 GMT
To: dsp@tapr.org
Message-ID: <65160forrer@fwa.bbs>
Rendered body type: text/plain

R:980225/2001z @:KF9UG.#NIN.IN.USA.NOAM [EN71LD] #:99723 $:65160forrer Z:46835

Hi all,

I recently come across a neat-looking tool for designing FIR/IIR filters that
may be of interest. This is a tool suite that uses Matlab's GUI functions that
allows one to interactively choose filter parameters (architecture,
orders, attentuation etc.), plot the resultant phase/amplitude responses,
and generate assembly code for the 56002 for your design. Best thing is
that the price is right -- i.e., its FREE!

This package is contributed software and is called DFP version 1.01.
Developed by Mehmet Zeytinglu of Ryerson Polytech. Look for it at Mathwork's
ftp site:

ftp://ftp.mathworks.com/pub/contrib/v4/signal/dfp.zip
(or .tar if you are using Unix).

I would be intereseted in corresponding with anyone that has gotten it up
and running.

73,

--Johan, KC7WW

PS. I have a web page at http://www.peak.org/~forrerj that is pretty much
dedicated to HF digital communications - tells you a bit about what
I am working on at the moment. Also is a blatant plug for my activities as a
consultant!

## 27. [DSP:812] Re: AX.25 encapsulation

From: chbrai@kf9ug.#nin.in.usa.noam
Date: 23 Feb 98 11:07:00 GMT
To: dsp@tapr.org
Message-ID: <13106chbrai@fwa.bbs>
Rendered body type: text/plain

R:980223/1107z @:KF9UG.#NIN.IN.USA.NOAM [EN71LD] #:98275 $:13106chbrai Z:46835

Tom King wrote:
>
> UDP has routing if that is necessary to get the packet to where it is going
> and AX.25
> Unconnected Protocol does allow for "digipeating" if you have to go more
> than one hop
> however neither protocol can guarantee a smooth uninterrupted stream of
> data to arrive
> at the other end to sound like the originator.

Hello Tom and others,

Yes I think AX.25 is unsuitable for what I have in mind, none of
the current amateur modems appear suitable either. Conventional packet modems
are not fast enough and the higher speed modems can't cope with
multipath or are unsuitable for use with FEC. Maybe the Tapr FHSS radio
would be good, but we are not allowed to use 900Mhz in the U.K. That band is used
for digital cellphones. There used to be a C.B band in that range but it was so
unpopular that it has been re-allocated for Cellphone usage.

I guess my main problem is that I have no clear goal in mind, which is always a big
mistake.

I have already written a simple LPC10 2400 bps Vocoder for the EVM mainly for self education,

the speech quality is very mechanical and would not find wide spread acceptance. At the
moment it only loops back (in software) on itself. I think it unlikely I would want
to try to port a more sophisticated scheme to the EVM as there is so little space in the Flash.

There was mention of doing an add on board for it, but that seems to have died a death.
I am sure if someone was to produce such a board there would be a market for it
outside the Amateur Radio community, especially if it could be used with the later
Motorola EVM Boards.

But being a Radio Amateur I am supposed to involve radio in my experiments! Other
wise I would just be a computer hobbyist! So I shall struggle on. I have also obtained
the source code for other coding schemes such as FS1016 and the GSM Vocoder and am
trying to sort out how to use a Sound Card for input and output to these.

There are a number of shareware packages about that use these coders for talking
over the Internet, so obviously they will run on a fast P.C. What I need to add is
FEC and some form of framming protocol and a suitable modem.

I guess my efforts would be better directed at designing a better 'high' speed modem,
one that can operate with an un-modified FM radio, has multipath tolerance and
is suitable for applying FEC. S/N performance is not such an issue as it would
only be used for short range communications so I could trade power off against
data rate. Has anyone tried running a H.F style parallel tone modem on 2 meter F.M ?

I know the European DAB standard uses a similar approach, although with much wider
bandwidths.

I wonder how many bounced mail messages I am going to get when I send this email to
the reflector!

- 73 Charles G4GUO

## 28. [DSP:820] Re: DSP digest 292

From: w4oqm@kf9ug.#nin.in.usa.noam
Date: 28 Feb 98 01:58:00 GMT
To: dsp@tapr.org
Message-ID: <1510w4oqm@fwa.bbs>
Rendered body type: text/plain

R:980228/0158z @:KF9UG.#NIN.IN.USA.NOAM [EN71LD] #:3640 $:1510W4OQM Z:46835

Tom,

Professional MATLAB is beyond a "hobby budget" but the student version is not.
I have MATLAB down at work and it cost (as I remember) around $2000.  The
exact price depends on how many "toolboxes" you get with it.

If you have a local university with a college of engineering, the student
version of MATLAB can usually be purchaced at the local school bookstore for
about $50 - $70.  Technically, you are supposed to be a student to buy it.
When I bought a copy at the local university bookstore, they didn't ask for my
student ID.

Student MATLAB5 (ISBN 0-13-272550-9) comes with a CD-ROM and a good tutorial
book.  Three toolboxes are bundled with it.  These are 1) the symbolic math
toolbox, 2) the control system toolbox, and 3) the signal processing toolbox.
The only limitation of the student version is that the maximum matrix size is
limited to16,384 elements.  This means that you can't sling around 2D
matricies greater than 128x128.  This is not usually a limitation for student
or hobby use.  Other than this, it has all features of the professional MATLAB
5.0, including some really slick graphing features.  My guess is that the
MathWorks offers this student version at the price it does so students will
get hooked and have their company buy it.  It worked on me!

If anyone in the group has MATLAB, the following book might be of interest:

  Computer-Based Exercises for Signal Processing Using MATLAB
  Burrus, McClellan, Oppenheim, Parks, Schafer & Schuessler
  Prentice Hall, ISBN 0-13-219825-8

Be warned that this book requires a knowledge of advanced engineering
mathematics, but it's chock-full of signal processing problems in MATLAB and
MATLAB is a great way to visualize the solutions to these problems.

Note: I have no interest in MATLAB, the MathWorks or Prentice Hall other being
a satisfied student and business customer.

Regards,
Charlie

W4OQM@aol.com

## 29. [DSP:819] Re: DSP digest 292

From: elsner@kf9ug.#nin.in.usa.noam
Date: 28 Feb 98 01:36:00 GMT
To: dsp@tapr.org
Message-ID: <12726elsner@fwa.bbs>
Rendered body type: text/plain

R:980228/0136z @:KF9UG.#NIN.IN.USA.NOAM [EN71LD] #:3593 $:12726elsner Z:46835

BAD NEWS-
 Matlab consists of several packages.  There is the base Matlab package plus
the signals toolbox, simulink (simulations), etc.  it is not cheap, they do
not publish their prices.  You have to call
them on the phone and have a sales rep give you a price.  I get the
impression that they adjust their
prices according to the size of your organization.

GOOD NEWS-
There is a student edition available that can be purchased at most
universities for about $100.
Of course it is a limited version (limits the size of matrices) and so I am
not sure how compatible
 the student edition is with all of the custom design software that is out
for matlab.  Bottom line is to give Math Works a call.  They seem to be very
open.

73 - Don ks9f

-----Original Message-----
From: Carles Perello <perello@imec.be>
To: dsp@tapr.org <dsp@tapr.org>
Subject: [DSP:817] Re: DSP digest 292

>
>On Fri, 27 Feb 1998, Thomas M. Alldread wrote:
>
>> Greetings:
>>
>> I am wonder if the MathWorks MATLAB software package is within my hobby
>> budget limits. Does anyone know how much the package costs for individual
>> use?
>
>What about using octave?
>
>hth
>
>carles
>
>
>
>

## 30. [DSP:816] Re: DSP digest 292

From: tmaldr@kf9ug.#nin.in.usa.noam
Date: 27 Feb 98 19:11:00 GMT
To: dsp@tapr.org
Message-ID: <43165tmaldr@fwa.bbs>
Rendered body type: text/plain

R:980227/1911z @:KF9UG.#NIN.IN.USA.NOAM [EN71LD] #:2666 $:43165tmaldr Z:46835

Greetings:

        I am wonder if the MathWorks MATLAB software package is within my hobby
budget limits. Does anyone know how much the package costs for individual
use?

73
Tom, VE7TMA

> I recently come across a neat-looking tool for designing FIR/IIR filters
that

> may be of interest. This is a tool suite that uses Matlab's GUI functions
that
> allows one to interactively choose filter parameters (architecture,
> orders, attentuation etc.), plot the resultant phase/amplitude responses,

> and generate assembly code for the 56002 for your design. Best thing is
> that the price is right -- i.e., its FREE!

## 31. [DSP:821] Re: Matlab

From: aab@kf9ug.#nin.in.usa.noam
Date: 01 Mar 98 03:32:00 GMT
To: dsp@tapr.org
Message-ID: <31380aab@fwa.bbs>
Rendered body type: text/plain

R:980301/0332z @:KF9UG.#NIN.IN.USA.NOAM [EN71LD] #:6636 $:31380aab Z:46835

>If you have a local university with a college of engineering, the student
>version of MATLAB can usually be purchaced at the local school bookstore for
>about $50 - $70.

www.amazon.com has it for $82, $87 or $89 depending on if you
want Mac, PowerMac, DOS or Windows 95/NT. It looks like only 95/NT
is version 5, the rest version 4. Search for "matlab student".

## 32. [DSP:824] Beta of PSK31 with QPSK for Texas C50 Available!!

From: jtpjat@kf9ug.#nin.in.usa.noam
Date: 03 Mar 98 20:27:00 GMT
To: dsp@tapr.org
Message-ID: <22798jtpjat@fwa.bbs>
Rendered body type: text/plain

R:980303/2027z @:KF9UG.#NIN.IN.USA.NOAM [EN71LD] #:12104 $:22798jtpjat Z:46835

There is a beta for PSK31 with QPSK for the DSKC50.
It's available at:

ftp://det.bi.ehu.es/pub/ham/psk31/psk31c50_beta1.zip

Comments are welcome.

        Eduardo/EA2BAJ

PD: PSK31 Information always available at
http://bipt106.bi.ehu.es/psk31.html

## 33. [DSP:826] Re: AX.25 encapsulation

From: dzn1@kf9ug.#nin.in.usa.noam
Date: 04 Mar 98 12:51:00 GMT
To: dsp@tapr.org
Message-ID: <62951dzn1@fwa.bbs>
Rendered body type: text/plain

R:980304/1251z @:KF9UG.#NIN.IN.USA.NOAM [EN71LD] #:14014 $:62951dzn1 Z:46835

The TMS320C542 DSK DSP core has specialized instructions that may help in
the code book search algorithm.  Check out the TMS320C54x applications
user guide volume 4 from Texas Instruments.

Regards, Howard Rubin, N3FEL

_____
You don't need to buy Internet access to use free Internet e-mail.
Get completely free e-mail from Juno at http://www.juno.com
Or call Juno at (800) 654-JUNO [654-5866]

## 34. [DSP:822] Re: Matlab

From: w4oqm@kf9ug.#nin.in.usa.noam
Date: 01 Mar 98 19:08:00 GMT
To: dsp@tapr.org
Message-ID: <15658w4oqm@fwa.bbs>
Rendered body type: text/plain

R:980301/1908z @:KF9UG.#NIN.IN.USA.NOAM [EN71LD] #:6956 $:15658W4OQM Z:46835

All,

Oops.  The ISBN I gave in my previous email was for the PowerMac version of

MATLAB5.  MATLAB for other systems will be different.  Sorry for any
confusion.

The ISBN for the book should be OK.

73,
Charlie

## 35. [DSP:823] Re: Matlab

From: bobh@kf9ug.#nin.in.usa.noam
Date: 01 Mar 98 19:49:00 GMT
To: dsp@tapr.org
Message-ID: <17871bobh@fwa.bbs>
Rendered body type: text/plain

R:980301/1949z @:KF9UG.#NIN.IN.USA.NOAM [EN71LD] #:6984 $:17871bobh Z:46835

------ =_NextPart_000_01BD4513.869133C0
Content-Type: text/plain; charset="us-ascii"
Content-Transfer-Encoding: 7bit

Thanks Charlie.
I think I caught my order from amazon in time.
For win95, I think the correct ISBN is 0132724774 for
"The Student Edition of Matlab : Version 5 Cd-Rom Windows 95/Nt :The Language of Technical Computing"
Let's see which version I get.
Bob wm6h

----------
From:   W4OQM[SMTP:W4OQM@aol.com]
Sent:   Sunday, March 01, 1998 12:04 PM
To:     dsp@tapr.org
Subject:        [DSP:822]  Re: Matlab

All,

Oops.  The ISBN I gave in my previous email was for the PowerMac version of
MATLAB5.  MATLAB for other systems will be different.  Sorry for any
confusion.

The ISBN for the book should be OK.

73,
Charlie

------ =_NextPart_000_01BD4513.869133C0
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Content-Transfer-Encoding: base64

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JDAN0ASQI+G9TAFTIREdYE7CAHB5CoX5BaBuZk3wJGEbxgqFTDdLTsYG4G8coHNoCGBskmRTUk9L
Vi03M0rW/xtVR6xIHy9nGjUwZgqFFSECAF9QAAMAEBAAAAAAAwAREAAAAABAAAcwINwJLkVFvQFA

AAgwINwJLkVFvQEeAD0AAQAAAAUAAABSRTogAAAAAJ0z

------ =_NextPart_000_01BD4513.869133C0--

## 36. [DSP:827] [psk31] PSK31C50 beta version bug!

From: edu@kf9ug.#nin.in.usa.noam
Date: 04 Mar 98 23:04:00 GMT
To: dsp@tapr.org
Message-ID: <56137edu@fwa.bbs>
Rendered body type: text/plain

R:980304/2304z @:KF9UG.#NIN.IN.USA.NOAM [EN71LD] #:15225 $:56137edu Z:46835

>>> From Andrew Senior
Hello everyone,

If you are using the beta release of PSK31 for the 'C50, please note there is at least one bug in it! I discovered this not long after I sent the package to Eduardo to go on the web-site (oops!) The bug concerns the auto-CQ feature (F5). It should work fine if you want to call CQ when you are not already transmitting, but if you have already turned the transmitter on (i.e. pressed F2), then press F5, although the first CQ call will go out fine, if you subsequently come to press F5 to call again, the transmission will start without a run of idles to allow the DCD to turn on. I have found and fixed this bug and the first proper release will include this fix.

In the meantime, I recommend you steer clear of using auto-CQ when the transmitter is already on, though you probably wouldn't want to do this very often anyway.

Eduardo has asked me to implement the RTS PTT control and I will endeavour to have this in the first proper release too.

73, Andrew.
G0TJZ

## 37. [DSP:829] EVM56K

From: dborde@kf9ug.#nin.in.usa.noam
Date: 07 Mar 98 20:55:00 GMT
To: dsp@tapr.org
Message-ID: <51853dborde@fwa.bbs>
Rendered body type: text/plain

R:980307/2055z @:KF9UG.#NIN.IN.USA.NOAM [EN71LD] #:21730 $:51853dborde Z:46835

Does anyone have a Motorola EVM56K Evaluation Module that they want to sell?
David Borden, K8MMO
dborden@laser.net

## 38. [DSP:828] test

From: lewise@kf9ug.#nin.in.usa.noam
Date: 06 Mar 98 19:07:00 GMT
To: dsp@tapr.org
Message-ID: <62389lewise@fwa.bbs>
Rendered body type: text/plain

R:980306/1907z @:KF9UG.#NIN.IN.USA.NOAM [EN71LD] #:20241 $:62389lewise Z:46835

..

Larry   KA5T

Georgetown, Texas
lewise@inetport.com

## 39. [DSP:839] Re: EVM usage under Linux

From: tpmann@kf9ug.#nin.in.usa.noam
Date: 11 Mar 98 13:27:00 GMT
To: dsp@tapr.org
Message-ID: <42851tpmann@fwa.bbs>
Rendered body type: text/plain

R:980311/1327z @:KF9UG.#NIN.IN.USA.NOAM [EN71LD] #:23697 $:42851tpmann Z:46835

On Tue, 10 Mar 1998, Johan Forrer wrote:

> >> I am particularly interested in hearing anyone getting Jeff Dione's EVM
> >> development tools working ?
>
> Pleased to report that I got this Linux-based software for the EVM working
> now. It basically is an assembler for the 56002 and a set of utilities to
> dowload and debug via the OnCE port. The assembler mostly follows the same
> format as the one that came with the EVM - there are a couple of  odd things
> to watch out for. I used it to assemble, download, and run one of my EVM
> test programs just fine.

Very interesting! Where can I find these utilities?

> >But it may be of some interest to someone that I just yesterday tried the
> >latest Wine and the windows version of the EVM debugger seemed to run
> >100% under it.
>
> This sounds promising - thanks for pointing this out. Which version of WINE
> would you recommend?
> I would'nt mind following up on this.

I used the latest as found in sunsite. I think it was 980301. But I really
haven't followed the Wine developement closely enough to recommend any
particular version.

--
---Tomi Manninen   /   Tomi.Manninen@hut.fi   /   OH2BNS @ OH2RBI.FIN.EU---

## 40. [DSP:841] Re: EVM usage under Linux

From: forrer@kf9ug.#nin.in.usa.noam
Date: 11 Mar 98 19:02:00 GMT
To: dsp@tapr.org
Message-ID: <46989forrer@fwa.bbs>
Rendered body type: text/plain

R:980311/1902z @:KF9UG.#NIN.IN.USA.NOAM [EN71LD] #:23727 $:46989forrer Z:46835

Tomi,

>> Pleased to report that I got this Linux-based software for the EVM working
>> now. It basically is an assembler for the 56002 and a set of utilities to
>> dowload and debug via the OnCE port. The assembler mostly follows the same
>> format as the one that came with the EVM - there are a couple of  odd things
>> to watch out for. I used it to assemble, download, and run one of my EVM
>> test programs just fine.
>
>Very interesting! Where can I find these utilities?
>

I originally downloaded it from
ftp://ftp.pfnet.com/pub/m56k/evm56k-0.2.9.tar.gz , but this FTP server does
not allow guest accounts any longer. Perhaps the code migrated somewhere
else if you could find it. I tried contacting the author, but got no
response to my e-mails. Best is if I e-mail what I have to whoever needs it.
Just re-mail me please (123k for the .tgz file).

73,

--Johan

## 41. [DSP:825] RE: Beta of PSK31 with QPSK for Texas C50 Available!!

From: resear@kf9ug.#nin.in.usa.noam
Date: 04 Mar 98 05:10:00 GMT
To: dsp@tapr.org
Message-ID: <32791resear@fwa.bbs>
Rendered body type: text/plain

R:980304/0510z @:KF9UG.#NIN.IN.USA.NOAM [EN71LD] #:13210 $:32791resear Z:46835

------ =_NextPart_000_01BD4751.AFEFE6E0
Content-Type: text/plain; charset="us-ascii"
Content-Transfer-Encoding: 7bit

HELP !!

Could you please tell me how to unsubscribe?  Thank-you

Salman

```
----------
From:   Eduardo Jacob
Sent:   Wednesday, March 04, 1998 12:28 AM
To:     dsp@tapr.org
Subject:        [DSP:824] Beta of PSK31 with QPSK for Texas C50 Available!!

There is a beta for PSK31 with QPSK for the DSKC50.
It's available at:

ftp://det.bi.ehu.es/pub/ham/psk31/psk31c50_beta1.zip

Comments are welcome.

        Eduardo/EA2BAJ

PD: PSK31 Information always available at
http://bipt106.bi.ehu.es/psk31.html



------ =_NextPart_000_01BD4751.AFEFE6E0
Content-Type: application/ms-tnef
Content-Transfer-Encoding: base64

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TVRQAGRzcEB0YXByLm9yZwAAHgACMAEAAAAFAAAAU01UUAAAAAAeAAMwAQAAAA0AAABkc3BAdGFw
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AQAAABIAAABTTVRQOkRTUEBUQVBSLk9SRwAAAAMAADkAAAAACwBAOgEAAAACAfYPAQAAAAQAAAAA
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ZXhhcyBDNTAgQXZhaWxhYmxlISEA3RIBBYADAA4AAADOBwMABAAJACMABAADAA8BASCAAwAOAAAA
zgcDAAQACQAiAAwAAwAWAQEJgAEAIQAAADYxNUE3RkEwM0VCM0QxMTE4MzdFNDQ0NTUzNTQwMDAw
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UFNLIGZvciBUZXhhcyBDNTAgQXZhaWxhYmxlISEAAgFxAAEAAAAWAAAAAb1HJua2oH9aYrM+EdGD
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TE1FSE9XVE9VTlNVQlNDUklCRT9USEFOSy1ZT1VTQUxNQU4tLS0tLS0tRlJPTTpFRFVBUkRP
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AQ8CFQKkA+QF6wKDAFATA1QCAGNoCsBzZXTuMgYABsMCgzIDxgcTAoO6MxMNfQqACM8J2TsV/3gy
NTUCgAqBDbELYG7wZzEwMxQgCwoS8gwBAmMAQCBIRUxQIBwhIQqFCoUIUWxkIEp5CGAgC1BlYRHw
IBh0ZWwDIAeAIGhvIQfgdG8gdQCAdWKBBPJiZT8gIFQRwLhuay0ckRtcBhBsA4EHG1wbXAr0bGkx
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dx1QBaAHgER2AwqGKkkvRUEyQkEyShtcUEQ4wEKUSW4zPMEAwHRpAiBB0Gx39y/gRSwKhWgCQEcS
R5AFMC0ZIDZHikjCLlJQbWx/IV8+jz+bGjUlRgqFFSEAAVkQAAAAAwAQEAAAAAADABEQAAAAAEAA
BzAgetDHJke9AUAACDAgetDHJke9AR4APQABAAAABQAAAFJFOiAAAAAAAwANNP03AACsFA==

------ =_NextPart_000_01BD4751.AFEFE6E0--
```

## 42. [DSP:834] Re: EVM usage under Linux

```
From: tpmann@kf9ug.#nin.in.usa.noam
Date: 10 Mar 98 12:39:00 GMT
To: dsp@tapr.org
Message-ID: <52257tpmann@fwa.bbs>
Rendered body type: text/plain

R:980310/1239z @:KF9UG.#NIN.IN.USA.NOAM [EN71LD] #:23019 $:52257tpmann Z:46835

Arrgh!

In my previous email replace "Dave" with "Doug"... Sorry.

--
---Tomi Manninen   /   Tomi.Manninen@hut.fi   /   OH2BNS @ OH2RBI.FIN.EU---
```

## 43. [DSP:833] Re: EVM usage under Linux

```
From: tpmann@kf9ug.#nin.in.usa.noam
Date: 10 Mar 98 12:50:00 GMT
To: dsp@tapr.org
Message-ID: <53963tpmann@fwa.bbs>
```

Rendered body type: text/plain

R:980310/1250z @:KF9UG.#NIN.IN.USA.NOAM [EN71LD] #:23026 $:53963tpmann Z:46835

On Mon, 9 Mar 1998, Johan Forrer wrote:

> I have had some good luck using my EVM applications under Linux and wonder
> if anyone else have been trying to use Linux with the EVM too?
>
> I am particularly interested in hearing anyone getting Jeff Dione's EVM
> development tools working ?  Otherwise, the assembler, debugger, and DL all
> runs just fine under DOSEMU - really cute.

I also do all my EVM stuff under linux and have had the same success as
you. Also as Dave said DL works as a native linux binary too. (BTW I did
some rather cosmetic changes so that it (the n1owu version) compiles with
gcc and with -Wall. Mail me Dave if that is of any interest.)

But it may be of some interest to someone that I just yesterday tried the
latest Wine and the windows version of the EVM debugger seemed to run
100% under it. That is at least in demo mode, with the serial port
disabled. I didn't have time to test it with the serial port enabled and
an EVM connected but given that Wine gave no complaints when I tried
without a EVM connected (particularly no "direct i/o attemted..."
complaints) it could work.

FWIW.

--
---Tomi Manninen   /   Tomi.Manninen@hut.fi   /   OH2BNS @ OH2RBI.FIN.EU---

## 44. [DSP:838] Re: EVM usage under Linux

From: dbraun@kf9ug.#nin.in.usa.noam
Date: 11 Mar 98 10:19:00 GMT
To: dsp@tapr.org
Message-ID: <35218dbraun@fwa.bbs>
Rendered body type: text/plain

R:980311/1019z @:KF9UG.#NIN.IN.USA.NOAM [EN71LD] #:23639 $:35218dbraun Z:46835

> Hey, I have been looking for something to produce two tones recently...
> (wanted to look at some Lissajou figures)
> When you say in the stuff you uploaded 'a while ago' are you
> speaking about  the TONE.ASM in EVCODE.ZIP, within N1OWU_11.ZIP?

Yes, the version in n1owu_11.zip is out of date.  If anyone
wants a the newest version right away, email me for a copy.

Doug

## 45. [DSP:840] Choice of architecture

From: marius@kf9ug.#nin.in.usa.noam
Date: 11 Mar 98 14:46:00 GMT
To: dsp@tapr.org
Message-ID: <50431marius@fwa.bbs>
Rendered body type: text/plain

R:980311/1446z @:KF9UG.#NIN.IN.USA.NOAM [EN71LD] #:23721 $:50431marius Z:46835

DSP list :

I have been a member of this list for about 1/2 year now and I see that
there is a lot of talk about the EVM and other TAPR stuff.

I have some old  Texas instrument
DSP evaluation gear with compiler and assembler but the field moves so quickly that
I do not know where to start. I assume the tms320c26 evaluation kit is obolete by now ?

I have noticed the Analog Devices Sharc prosessors has received some attention and that
they have a low priced and powerful evaluation board.

Can someone please give me some hints on what DSP arcitecture to choose
working on and the development tools to go ?
What is the hot architecture and toolset today ?

Have somebody on this list done any work with coding of video for transmission
and reception with FEC and efficient coding ? I am thinking of digital ATV.

73 de LA9EEA
Marius Hauki

## 46. [DSP:835] Re: EVM usage under Linux

From: dbraun@kf9ug.#nin.in.usa.noam
Date: 10 Mar 98 19:10:00 GMT
To: dsp@tapr.org
Message-ID: <54126dbraun@fwa.bbs>
Rendered body type: text/plain

R:980310/1910z @:KF9UG.#NIN.IN.USA.NOAM [EN71LD] #:23174 $:54126dbraun Z:46835

> I also do all my EVM stuff under linux and have had the same success as
> you. Also as Doug said DL works as a native linux binary too. (BTW I did
> some rather cosmetic changes so that it (the n1owu version) compiles with
> gcc and with -Wall. Mail me Doug if that is of any interest.)
>
>---Tomi Manninen / Tomi.Manninen@hut.fi / OH2BNS @ OH2RBI.FIN.EU---

If you send me the code, I will eventually merge your changes
with my Win32 changes, so that there can be one set of code that
works on all OSes. Any idea why it mighbt hang up on
some PCs, but not others?

By the way, I heop that people are aware of the runtime parameter
feature that I added to DL.EXE. This allows you to patch EVM
memory locations when you load the program. If you write the EVM
code to take advantage of it, it allows users to set the channel,
gain, etc. when they load a program, instead of having to
re-assemble it. For an example, look at the program "tone.asm"
that is in the collection of stuff I uploaded to ftp.tpar.org a
while ago. You run "dl tone f=2235" to load the "tone" program
and set its output frequency to 2235 Hz, or "dl tone f=1800 f2=2400"
to get a two-tone output...

Doug
SV/N1OWU

## 47. [DSP:837] Re: EVM usage under Linux

From: forrer@kf9ug.#nin.in.usa.noam
Date: 10 Mar 98 23:16:00 GMT
To: dsp@tapr.org
Message-ID: <3976forrer@fwa.bbs>
Rendered body type: text/plain

R:980310/2316z @:KF9UG.#NIN.IN.USA.NOAM [EN71LD] #:23305 $:3976forrer Z:46835

Tomi,

>> I am particularly interested in hearing anyone getting Jeff Dione's EVM
>> development tools working ?

Pleased to report that I got this Linux-based software for the EVM working
now. It basically is an assembler for the 56002 and a set of utilities to
dowload and debug via the OnCE port. The assembler mostly follows the same
format as the one that came with the EVM - there are a couple of odd things
to watch out for. I used it to assemble, download, and run one of my EVM
test programs just fine.

>But it may be of some interest to someone that I just yesterday tried the
>latest Wine and the windows version of the EVM debugger seemed to run
>100% under it. That is at least in demo mode, with the serial port
>disabled. I didn't have time to test it with the serial port enabled and
>an EVM connected but given that Wine gave no complaints when I tried
>without a EVM connected (particularly no "direct i/o attemted..."
>complaints) it could work.

This sounds promising - thanks for pointing this out. Which version of WINE
would you recommend?
I would'nt mind following up on this.

73,

--Johan

## 48. [DSP:832] Re: EVM usage under Linux

From: dbraun@kf9ug.#nin.in.usa.noam
Date: 10 Mar 98 12:20:00 GMT
To: dsp@tapr.org
Message-ID: <54426dbraun@fwa.bbs>
Rendered body type: text/plain

R:980310/1220z @:KF9UG.#NIN.IN.USA.NOAM [EN71LD] #:23011 $:54426dbraun Z:46835

DL also works fine for me as a native Linux executable.

By the way, I really have no clue why DL would not always work
OK. It always works for me, and I've tried it on 3 different PCs.

Do you think the problem could be in the PC code, or in the EVM
code? Perhaps the AlefNull guys could tell us if they ever had
any problems with it. I never really changed any of the code that
accesses the serial port- in fact, I've stolen it more than once
to use for other programs...

Doug
SV/N1OWU

## 49. [DSP:830] EVM usage under Linux

From: forrer@kf9ug.#nin.in.usa.noam
Date: 09 Mar 98 20:56:00 GMT
To: dsp@tapr.org
Message-ID: <4897forrer@fwa.bbs>
Rendered body type: text/plain

R:980309/2056z @:KF9UG.#NIN.IN.USA.NOAM [EN71LD] #:22696 $:4897forrer Z:46835

Hello fellow EVM experimentors,

I have had some good luck using my EVM applications under Linux and wonder
if anyone else have been trying to use Linux with the EVM too?

I am particularly interested in hearing anyone getting Jeff Dione's EVM
development tools working ?  Otherwise, the assembler, debugger, and DL all
runs just fine under DOSEMU - really cute.

73,

Johan, KC7WW

## 50. [DSP:836] Re: EVM usage under Linux

From: richar@kf9ug.#nin.in.usa.noam
Date: 10 Mar 98 22:23:00 GMT
To: dsp@tapr.org
Message-ID: <62332richar@fwa.bbs>
Rendered body type: text/plain

R:980310/2223z @:KF9UG.#NIN.IN.USA.NOAM [EN71LD] #:23262 $:62332Richar Z:46835

Doug, SV/N1OWU, you wrote:

> For an example, look at the program "tone.asm"
> that is in the collection of stuff I uploaded to ftp.tpar.org a
> while ago.  You run "dl tone f=3D2235" to load the "tone" program
> and set its output frequency to 2235 Hz, or "dl tone f=3D1800 f2=3D2400=
"
> to get a two-tone output...

Hey, I have been looking for something to produce two tones recently...
(wanted to look at some Lissajou figures)
When you say in the stuff you uploaded 'a while ago' are you
speaking about  the TONE.ASM in EVCODE.ZIP, within N1OWU_11.ZIP?

The header of TONE.ASM from this one, which I have been using, reads:

```
;
; $Header: E:/HAM/EVM/TEST/RCS/TONE.ASM 1.2 1996/12/28 15:57:26 dbraun Ex=
p
$
;
; $Log: TONE.ASM $
; Revision 1.2  1996/12/28 15:57:26  dbraun
; Some improvements
;
; Revision 1.1  1996/12/06 09:32:16  dbraun
```

```
; Initial revision
;
;
 and looking towards the end, I don't see anything referring to 'f2' :
-----------------------------------
CarPhase  dc 0

; These are meant to be patched at run time: freq and RMS amplitude
f         dc DefaultFreq  ; 1 to ~22000 Hz
rms       dc DefaultRMS ; 0.0 to 0.99999 RMS volts
dig       dc 1           ; 0 for mic-level output, 1 for digital (line)
level

; This (cycles/sample) floating-point value is calculated from f, above.
; CarFreq =3D 2 * f / SampleFreq
CarFreq   dc 0
-----------------------------------
If you have uploaded a more recent Tone.asm , which I have just been
trying to find on the TAPR ftp site, maybe you would point me in the righ=
t
direction. Or I should try it out before jumping on the reply button... :=
 )
(If thats the case I apologize for being a disbeliever - I've got a feeli=
ng
the
'f2' though should have been defined somewhere?)

Would be grateful if you would shed a bit more light on this.

BTW: I really like the DL, DL32, and supporting changes in BIOS2.ASM
you made...

regards

Richard
ON9BCS / G7JMG
```

## 51. [DSP:831] Re: EVM usage under Linux

From: john@kf9ug.#nin.in.usa.noam
Date: 09 Mar 98 21:52:00 GMT
To: dsp@tapr.org
Message-ID: <2496john@fwa.bbs>
Rendered body type: text/plain

R:980309/2152z @:KF9UG.#NIN.IN.USA.NOAM [EN71LD] #:22711 $:2496john Z:46835

Johan Forrer wrote:

> Hello fellow EVM experimentors,
>
> I have had some good luck using my EVM applications under Linux and wonder
> if anyone else have been trying to use Linux with the EVM too?
>
> I am particularly interested in hearing anyone getting Jeff Dione's EVM
> development tools working ?  Otherwise, the assembler, debugger, and DL all
> runs just fine under DOSEMU - really cute.
>
> 73,
>
> Johan, KC7WW

Johan,

I am using the EVM almost 99%of the tiime with Linux.  I really only use it
for working the 9600 baud satellites,  and have that modem in the flash
eprom,  so I dont have to download any code.

John Melton,

g0orx/n6lyt

## 52. [DSP:843] Re: Choice of architecture

From: tim@kf9ug.#nin.in.usa.noam
Date: 11 Mar 98 20:21:00 GMT
To: dsp@tapr.org
Message-ID: <47293tim@fwa.bbs>
Rendered body type: text/plain

R:980311/2021z @:KF9UG.#NIN.IN.USA.NOAM [EN71LD] #:23859 $:47293tim Z:46835

Hi Marius,

> Can someone please give me some hints on what DSP arcitecture to choose
> working on and the development tools to go ?
> What is the hot architecture and toolset today ?

I would recommend the Motorola 56300 as the hot DSP architecture today,
but don't trust me...I work for Motorola ;-)

Evaluation boards with external SRAM, and CD quality stereo codec, and
plenty of signal headers for interfacing other projects are available
from Motorola distributers for less than <$200. I do not know the exact
pricing of the EVMs.

For more information you can visit www.mot.com/SPS/DSP and select
'Distributers' from the quick menu at the bottom of the page.

73,
Tim

## 53. [DSP:844] Re: EVM usage under Linux

From: jtpjat@kf9ug.#nin.in.usa.noam
Date: 11 Mar 98 20:14:00 GMT
To: dsp@tapr.org
Message-ID: <35101jtpjat@fwa.bbs>
Rendered body type: text/plain

R:980311/2014z @:KF9UG.#NIN.IN.USA.NOAM [EN71LD] #:23858 $:35101jtpjat Z:46835

>I originally downloaded it from
>ftp://ftp.pfnet.com/pub/m56k/evm56k-0.2.9.tar.gz , but this FTP server does
>not allow guest accounts any longer.

        It's available at my ftp-server at:

ftp://det.bi.ehu.es/pub/ham/evm/Dionne/evm56k-0.2.9.tar.gz

        Jeff is apparently very busy now porting Linux to the Pilot PDA, just see
it at:

http://ryeham.ee.ryerson.ca/uClinux/

        Perhaps you can locate another email address.

        Eduardo

## 54. [DSP:842] Re: Choice of architecture

From: forrer@kf9ug.#nin.in.usa.noam
Date: 11 Mar 98 19:22:00 GMT
To: dsp@tapr.org
Message-ID: <32626forrer@fwa.bbs>
Rendered body type: text/plain

R:980311/1922z @:KF9UG.#NIN.IN.USA.NOAM [EN71LD] #:23808 $:32626forrer Z:46835

Marius,

My 2 cents worth....

>I have some old  Texas instrument
>DSP evaluation gear with compiler and assembler but the field moves so
quickly that
>I do not know where to start. I assume the tms320c26 evaluation kit is
obolete by now ?

Obsolete I would agree. There are so many new variants of the C5x now that
are cost effective and more useful. The C2x also has a rather restrictive
and primitive architecture that I would not recommend to someone that want
to start learning about DSP.

>I have noticed the Analog Devices Sharc prosessors has received some
attention and that
>they have a low priced and powerful evaluation board.

Yes, certainly -- where can you buy a 40 MIPS floating point DSP for $178?
That price includes a C compiler (a little buggy but  useful) and other

development tools. One can do fairly challenging DSP work in C (for example, see my web page for HF channel simultor using this such a processor http://www.peak.org/~forrerj ). However, most competent DSP programmers are very much at home working in assembly language. Do not think that C is the answer, at least for the forseeable future.

>Can someone please give me some hints on what DSP arcitecture to choose
>working on and the development tools to go ?
>What is the hot architecture and toolset today ?

Good question -- we all have our preferences. Depends what you want to achieve. If you are into amateur radio digital radio communications experimentation, the Motorola 56K has a good following here on this list. If the interest is in software transceivers for HF, VHF, and microwave work, there are excellent work being done using the Analog Devices 2181 EZKIT ($89). There also are some activities around the C5x DSK lately, i.e., audio noise reduction, also HF PSK demodulation.
With some caution, I would also mention the possibilities for doing DSP work using the Pentium MMX instruction set. The field is in much disarray and too much hype, but I did succeed to get some rather useful stuff together. Been a while since I played with it though.

I think the general idea is to find a support group that meets your interests. Most modern DSP chips are pretty much capable of doing the usual stuff. In some situations you may find a considerable body of contributed materials to draw from. It is an active field and you would need to look around a bit for those that are working at it.

>Have somebody on this list done any work with coding of video for transmission
>and reception with FEC and efficient coding ? I am thinking of digital ATV.

I have not, but there was some activity at the recent DCC's on the topic. You may want to look at the past two years or so contributions -- TAPR has that on its web page.

Hope this helps.

--Johan

## 55. [DSP:845] Re: Choice of architecture

From: dbraun@kf9ug.#nin.in.usa.noam
Date: 11 Mar 98 22:36:00 GMT
To: dsp@tapr.org
Message-ID: <44188dbraun@fwa.bbs>
Rendered body type: text/plain

R:980311/2236z @:KF9UG.#NIN.IN.USA.NOAM [EN71LD] #:23937 $:44188dbraun Z:46835

> With some caution, I would also mention the possibilities for doing DSP work
> using the Pentium MMX instruction set. The field is in much disarray and too
> much hype, but I did succeed to get some rather useful stuff together. Been
> a while since I played with it though.

Keep in mind that the "normal" floating-point Pentium instruction set is surprisingly fast. A Pentium II will do floating-point array math about as fast as a Cray-I supercomputer of the late 70's. And for general-purpose C code, it will be several times faster than a Cray.

Also, keep in mind that the Pentiums will do floating-point math just as fast as integer math!

Here are some other nice points:  You probably already own one, they usually have megabytes of memory, and you can get a very good C compiler for it for under $100.  Plus, millions of other hams will be able to run the stuff you write.

Naturally, DSP code on the PC will usually use a soundcard for I/O. Several years ago, writing code to interface to soundcards was a black art, and you had to buy developer's kits from places like Creative Labs to figure out how to do it. But today, there are reasonably good APIs in Win 95 and NT, and lots of books, etc. on the subject.

I work for Intel (but not in marketing...)

Doug Braun

N1OWU

(These are my personal comments, and do not represent the official views
or opinions of Intel).

## 56. [DSP:872] Release of Version 1.0 of PSK31 for the Texas C50 DSK.

From: jtpjat@kf9ug.#nin.in.usa.noam
Date: 03 Apr 98 12:30:00 GMT
To: dsp@tapr.org
Message-ID: <50478jtpjat@fwa.bbs>
Rendered body type: text/plain

R:980403/1230z @:KF9UG.#NIN.IN.USA.NOAM [EN71LD] #:38418 $:50478jtpjat Z:46835

There is a new release of the Texas C50 PSK31 Terminal. It supports Viterbi
coding and QPSK modulation. These are the changes:

Changes since the Beta release:
* Serial port interrupt bug fixed: this caused the program to stop
  communicating with the DSK. (Didn't happen under Win3.x/Win95).
* Control of PTT via RTS line added.
* F5 key for auto-CQ now shown on display. Auto-CQ bug fixed.
* Faster tuning control (10 Hz steps with Ctrl+arrow keys)
* Tuning display direction of rotation changed (TAKE NOTE!)
* File send (F6) legend no longer shows 'on' or 'off'.
* Documentation updated.

As usual it's available at ftp://det.bi.ehu.es/pub/ham/psk31/psk31c50_r1.zip

If you want to know more about PSK31, please take a look at
http://aintel.bi.ehu.es/psk31.html

        Eduardo/EA2BAJ
---------------------------------------------------------------------
Eduardo Jacob - Area de Ingenier'ia Telem'atica
Departamento de Electr'onica y Telecomunicaciones
ETSII y de IT               Tel: +34-(9)4-427 8055
UPV / EHU                   Fax: +34-(9)4-441 4041
Alda Urquijo s/n         E-mail: jtpjatae@bi.ehu.es
E-48013 - Bilbao (Spain)       : edu@kender.es
Ham: EA2BAJ          VHF PACKET: EA2BAJ @ EA2URV
PGP Key available: Send email w/subject: PGPKEY
fingerprint      : D8 FA 54 49 F7 40 BA AA 09 1A 73 40 A4 26 ED BD

## 57. [DSP:873] ADSP-21xx family assembler for Linux

From: forrer@kf9ug.#nin.in.usa.noam
Date: 03 Apr 98 19:02:00 GMT
To: dsp@tapr.org
Message-ID: <44522forrer@fwa.bbs>
Rendered body type: text/plain

R:980403/1902z @:KF9UG.#NIN.IN.USA.NOAM [EN71LD] #:38449 $:44522forrer Z:46835

Hi all,

Not sure whether this message made it to the list. My apologies if it is a
repeat.

 ---------------------------------000---------------------------------

I posted the first rough cut at a native ADSP 21xx Linux assembler on my web
page. It was used in conjunction with a DSP sound card article that I did
way back in 1994.

The assembler isnt much to boast about and definately needs further work,
but does generate valid code and will help out if you are desperate for a
Linux-based assembler for this DSP chip.

Have fun - 73,

--Johan

See http://www.peak.org/~forrerj

## 58. [DSP:879] Re: Windows soundcard FFT software

From: karor@kf9ug.#nin.in.usa.noam
Date: 11 Apr 98 19:17:00 GMT

To: dsp@tapr.org
Message-ID: <48259karor@fwa.bbs>
Rendered body type: text/plain

R:980411/1917z @:KF9UG.#NIN.IN.USA.NOAM [EN71LD] #:42842 $:48259Karor Z:46835

Wave for Windows has the type display you are looking for.

---
> From: Ken Harris <kjh@surf.shoreline-studios.com>
> To: dsp@tapr.org
> Subject: [DSP:876] Windows soundcard FFT software
> Date: Wednesday, April 08, 1998 3:34 PM
>
> I'm looking for a simple Win95 based program that will
> take input from a soundcard and display it in the frequency
> domain ("waterfall" or FFT diagram).
>
>       Bandwidth needed is small : say 5Khz (10Khz sample),
> mono is OK.
>
> ---
> Ken J. Harris voice:  650/969-7896 x 15       fax: 650/969-7864
> mailto:kjh@shoreline-studios.com    http://www.shoreline-studios.com
> snail mail: 1804 N. Shoreline Blvd, Ste 240, Mountain View, CA 94043
> _/)_/)_/)

## 59. [DSP:878] Re: DSP digest 292

From: bikila@kf9ug.#nin.in.usa.noam
Date: 09 Apr 98 19:20:00 GMT
To: dsp@tapr.org
Message-ID: <244bikila@fwa.bbs>
Rendered body type: text/plain

R:980409/1920z @:KF9UG.#NIN.IN.USA.NOAM [EN71LD] #:41660 $:244bikila Z:46835

Hello,
I am a student at the University of Illinois @ Urbana. I will be
graduating in August of 98 and looking for a job in DSP and
communications. If anyone can help me, please email me
N.G
Thank You

_____
Get Your Private, Free Email at http://www.hotmail.com

## 60. [DSP:877] Re: Windows soundcard FFT software

From: chbrai@kf9ug.#nin.in.usa.noam
Date: 08 Apr 98 23:04:00 GMT
To: dsp@tapr.org
Message-ID: <62048chbrai@fwa.bbs>
Rendered body type: text/plain

R:980408/2304z @:KF9UG.#NIN.IN.USA.NOAM [EN71LD] #:41281 $:62048chbrai Z:46835

Ken Harris wrote:
>
> I'm looking for a simple Win95 based program that will
> take input from a soundcard and display it in the frequency
> domain ("waterfall" or FFT diagram).
>
>         Bandwidth needed is small : say 5Khz (10Khz sample),
> mono is OK.
>
> ---
> Ken J. Harris   voice:  650/969-7896 x 15       fax: 650/969-7864
> mailto:kjh@shoreline-studios.com    http://www.shoreline-studios.com
> snail mail: 1804 N. Shoreline Blvd, Ste 240, Mountain View, CA 94043
> _/)_/)_/)

A suitable program is

ftp.simtel.net/pub/simtelnet/win95/sound/gram412.zip

- Charles G4GUO

## 61. [DSP:876] Windows soundcard FFT software

From: kjh@kf9ug.#nin.in.usa.noam
Date: 08 Apr 98 21:58:00 GMT
To: dsp@tapr.org
Message-ID: <4237kjh@fwa.bbs>
Rendered body type: text/plain

R:980408/2158z @:KF9UG.#NIN.IN.USA.NOAM [EN71LD] #:41262 $:4237kjh Z:46835

I'm looking for a simple Win95 based program that will
take input from a soundcard and display it in the frequency
domain ("waterfall" or FFT diagram).

        Bandwidth needed is small : say 5Khz (10Khz sample),
mono is OK.

---
Ken J. Harris   voice:  650/969-7896 x 15       fax: 650/969-7864
mailto:kjh@shoreline-studios.com    http://www.shoreline-studios.com
snail mail: 1804 N. Shoreline Blvd, Ste 240, Mountain View, CA 94043
_/)_/)_/)

## 62. [DSP:881] Re: Off topic: Z85C30 x Z80230

From: rocket@kf9ug.#nin.in.usa.noam
Date: 18 Apr 98 03:45:00 GMT
To: dsp@tapr.org
Message-ID: <29321rocket@fwa.bbs>
Rendered body type: text/plain

R:980418/0345z @:KF9UG.#NIN.IN.USA.NOAM [EN71LD] #:46351 $:29321rocket Z:46835

> Marcelo Puhl wrote:
>
> > I'm designing a SCC board and would like to know what would be
> > the advantages of using a Z80230 in place of the well known
> > Z85C30.
> >
> > Also if there are advantages in replacing the existing Z85C30
> > SCC by the new Z80230 ESCC in a Baycom USCC card.
>
(snip)

> The Zilog 230 is said to have a larger FIFO and a better
> DMA controller, however I haven't found out (from the Zilog
> datasheet) how one would know the frame starts/ends from
> DMA'ed data... If you find out per chance how this is supposed
> to work (and how you can do back to back frame transfer without
> excessive interrupt latency requirements), then let us know!

Simple - use the Z80182 processor which contains the 230 on-chip, and make the
frame end interrupt a high priority. Unless you are running a really high frame
data rate (which won't happen on packet radio), there is plenty of time to have
the interrupt service routine set the DMA to a new memory block for whatever
might come in while the current frame is being worked on - or just save the
pointer for the first and last octet in the frame whose interrupt you are
servicing.

Since it's all in assembly language anyway, it's plenty fast. Well, at least at
9600    baud which is the fastest I've played with it so far.

-73- de N5PSP  - Alton

"We hold these truths to be self-evident, that all men are created
equal; that they are endowed by their Creator with certain
inalienable rights, and among them are Life, Liberty, and the Pursuit
of Happiness."

## 63. [DSP:880] ATTENTION: ALL CURRENT AND PROSPECTIVE USERS OF MOTOROLA 563xx DSPs (

From: wd5ivd@kf9ug.#nin.in.usa.noam
Date: 14 Apr 98 04:29:00 GMT
To: dsp@tapr.org
Message-ID: <46071wd5ivd@fwa.bbs>
Rendered body type: text/plain

R:980414/0429z @:KF9UG.#NIN.IN.USA.NOAM [EN71LD] #:44096 $:46071wd5ivd Z:46835

FYI -- Greg

Forwarded message:

>From wrs@mail2.dspnet.com Mon Apr 13 18:44:24 1998
Date: Mon, 13 Apr 1998 20:34:30 -0400
From: Wind River Systems <wrs@mail2.dspnet.com>
Message-Id: <199804140034.UAA14553@mail2.dspnet.com>
Subject: ATTENTION: ALL CURRENT AND PROSPECTIVE USERS OF MOTOROLA 563xx DSPs
Apparently-To: wd5ivd@tapr.org

Save weeks, even months, of development time on your next project with
Tornado for DSP.  Visit Wind River Systems at booth #316 at DSP World
Spring.

A powerful, integrated development environment, Tornado for DSP offers
you:
*  An arsenal of powerful, productivity-enhancing tools that work
    together seamlessly
*  An open API, so you can easily incorporate tools created in-house or
    by other vendors
*  The tiny yet full-featured WiSP microkernel -- specifically created
    for the 563xx family of DSPs
*  Your choice of host-target connection
*  The security of industry-leading, proven Wind River technology
*  The freedom to add value to your DSP applications where it matters

Why struggle with primitive or nonexistent development tools when you
can harness the power of Wind River's Tornado?  Or tie up your valuable
design resources creating and maintaining one or more homegrown
operating systems when you can leverage the expertise of the RTOS
industry leader?

The Wind River advantage is even more compelling if your design
incorporates both a Motorola 563xx DSP and a general-purpose processor:
the powerful Tornado environment is consistent across both platforms.

So if you're using or considering a design that features the 563xx
family, come talk to us at booth 316 at the DSP World Spring show. You
owe it to yourself.

## 64. [DSP:851] Re: DSP digest 305

From: 758003@kf9ug.#nin.in.usa.noam
Date: 13 Mar 98 19:16:00 GMT
To: dsp@tapr.org
Message-ID: <41713758003@fwa.bbs>
Rendered body type: text/plain

R:980313/1916z @:KF9UG.#NIN.IN.USA.NOAM [EN71LD] #:24943 $:41713758003 Z:46835

>I agree that you can very well use a modern desktop CPU to do
>signal processing, but have you been able to do anything useful
>with mmx? I lately tried to "MMXify" the inner loop of the
>FIR filter on my HF software, but didn't succeed.
>Granted, it's cool if you can do 2 muls per cycle, but if you
>need 20 insns before and after to setup/clean up then that's of
>no use. It didn't even reduce register pressure due to
>the lack of a "PADDQ" insn.

 On this subject, I found an interesting URL, with assembler source cod=
e for an
FFT implemented
using the MMX instruction set. Here it goes :

 http://developer.intel.com/drg/mmx/appnotes/ap555.htm

I tried to code an LMS noise-reducing filter, though not with MMX, usin=
g
standard C language
on a 200 MHz Pentium, and the results are quite promising. At 8 kHz sam=
pling
rate, a 48-tap
LMS filter consumes only a few percent of the available CPU time betwee=
n
consecutive samples.
The thoughest part was to have the SoundBlaster card work in full-duple=
x mode,
so to have
realtime filtering, but with the help of the Ethan Brodsky (sp?) routin=
es, and
some tweaking, that
also is a problem of the past.

Alberto di Bene, I2PHD
Home page :  http:/www.qsl.net/i2phd
=

## 65. [DSP:847] Re: Choice of architecture

From: sailer@kf9ug.#nin.in.usa.noam
Date: 12 Mar 98 10:35:00 GMT
To: dsp@tapr.org
Message-ID: <11772sailer@fwa.bbs>
Rendered body type: text/plain

R:980312/1035z @:KF9UG.#NIN.IN.USA.NOAM [EN71LD] #:24227 $:11772sailer Z:46835

Doug Braun wrote:
> are reasonably good APIs in Win 95 and NT, and lots of books,
> etc. on the subject.

Really? Is there now an API that allows low latency input and
output? Can you enlighten me? I even had to hack around
the seriously broken VDMAD in Windoze 95 (and I guess it's
as broken in previous versions...).

> I work for Intel (but not in marketing...)

Since you work for Intel, you could probably enlighten us
of a useful application for MMX. I've lately tried to
make use of MMX in a simple FIR filter, but didn't succeed.

Tom

## 66. [DSP:852] Re: MMX, etc.

From: dbraun@kf9ug.#nin.in.usa.noam
Date: 14 Mar 98 12:02:00 GMT
To: dsp@tapr.org
Message-ID: <29917dbraun@fwa.bbs>
Rendered body type: text/plain

R:980314/1202z @:KF9UG.#NIN.IN.USA.NOAM [EN71LD] #:25323 $:29917dbraun Z:46835

Here is a data point:

The code below executes at 64 MFLOPS on my 200MHz MMX.
(Where each step of the MAC routine counts as 2 FLOPS).
This is compiled with MS Visual C++ 4.0

The code the compiler generates for this seems pretty much
optimum. Doing stuff like using pointers instead of array
indexing does not speed it up...

A EVM does the same thing (basically the MAC instruction) about
30% slower, but of course for fixed-point.

```
#define ARRAYSIZE   200

  static double X[ARRAYSIZE];  // Actually filled with values from 0.0 to 1.0
  static double Y[ARRAYSIZE];  // Actually filled with values from 0.0 to 1.0
  double S;
  int j;

  S = 0.0;
  for(j=0; j<ARRAYSIZE;j++) {
    S += X[j] * Y[j];
  }
```

Doug

## 67. [DSP:853] Re: DSP digest 305

From: dbraun@kf9ug.#nin.in.usa.noam
Date: 15 Mar 98 10:49:00 GMT
To: dsp@tapr.org
Message-ID: <23935dbraun@fwa.bbs>
Rendered body type: text/plain

R:980315/1049z @:KF9UG.#NIN.IN.USA.NOAM [EN71LD] #:26026 $:23935dbraun Z:46835

At the same Web site mentioned below, there's actually a bunch of
interesting MMX app notes, including a couple on FIR filters and
vector dot products (really the same thing). In ap557.htm, it is
claimed that two 16-bit MACs (w/ 32-bit result) can be done for
each clock cycle, for 400 million MACs/sec on a 200MHz CPU.

The downside is that the code is very tricky, and you have to be careful
to arrange and align the data structures properly.  And, it uses only
16-bit data, not 24-bit (like the 56002) or floating-point.

Doug
SV/N1OWU

> On this subject, I found an interesting URL, with assembler source cod=
>e for an
>FFT implemented
>using the MMX instruction set. Here it goes :
>
> http://developer.intel.com/drg/mmx/appnotes/ap555.htm

## 68. [DSP:850] Re: DSP digest 304

From: tim@kf9ug.#nin.in.usa.noam
Date: 12 Mar 98 19:20:00 GMT
To: dsp@tapr.org
Message-ID: <1403tim@fwa.bbs>
Rendered body type: text/plain

R:980312/1920z @:KF9UG.#NIN.IN.USA.NOAM [EN71LD] #:24375 $:1403tim Z:46835

Hi Alberto,

>  Tim,  do Motorola distributors sell in quantity one to individuals at that
> price ?

I believe so.

> Do they ship by mail
> overseas ?

I heard from someone on this list that they had one shipped from the
US. This may actually be preferred, as the 56303EVM is/was difficult to
obtain in Europe for awhile due to demand.

> Could you recommend one that does ?

Not really. Wyle, Future, Hamilton, and Arrow tend to be the large ones
I think.

> May be in the US it's easy to
> get hold of an EVM,
> but in Italy the distributor I phoned to, asks an outrageous price for it.

Yeah, I don't understand all the foreign sales/shipping and stuff.
Perhaps there is some foreign exchange rate that is inflating the
price, plus shipping. I'm only a keyboard banging engineer. I'll
forward your email to marketing and see what I can learn.

73,
Tim

## 69. [DSP:846] Re: Choice of architecture

From: sailer@kf9ug.#nin.in.usa.noam
Date: 12 Mar 98 10:36:00 GMT
To: dsp@tapr.org
Message-ID: <40412sailer@fwa.bbs>
Rendered body type: text/plain

R:980312/1036z @:KF9UG.#NIN.IN.USA.NOAM [EN71LD] #:24228 $:40412sailer Z:46835

> With some caution, I would also mention the possibilities for doing DSP work
> using the Pentium MMX instruction set. The field is in much disarray and too
> much hype, but I did succeed to get some rather useful stuff together. Been
> a while since I played with it though.

I agree that you can very well use a modern desktop CPU to do
signal processing, but have you been able to do anything useful
with mmx? I lately tried to "MMXify" the inner loop of the
FIR filter on my HF software, but didn't succeed.
Granted, it's cool if you can do 2 muls per cycle, but if you
need 20 insns before and after to setup/clean up then that's of
no use. It didn't even reduce register pressure due to
the lack of a "PADDQ" insn.

Tom

## 70. [DSP:849] Re: DSP digest 304

From: 758003@kf9ug.#nin.in.usa.noam
Date: 12 Mar 98 11:11:00 GMT
To: dsp@tapr.org
Message-ID: <16249758003@fwa.bbs>
Rendered body type: text/plain

R:980312/1111z @:KF9UG.#NIN.IN.USA.NOAM [EN71LD] #:24244 $:16249758003 Z:46835

>Evaluation boards with external SRAM, and CD quality stereo codec, and=

>plenty of signal headers for interfacing other projects are available
>from Motorola distributers for less than <$200. I do not know the exac=
t
>pricing of the EVMs.

 Tim,  do Motorola distributors sell in quantity one to individuals at =
that
price ? Do they ship by mail
overseas ? Could you recommend one that does ? May be in the US it's ea=
sy to
get hold of an EVM,
but in Italy the distributor I phoned to, asks an outrageous price for =
it. I
would like to switch to the 56K
from the C50, just for the greater developing activities I see on it, b=
ut,
barring new events, for the
moment I can't.

Alberto di Bene ,  I2PHD
<<< See my home page at  :   http://www.qsl.net/i2phd     with the DSPB=
OX
program >>>
=

## 71. [DSP:848] Re: Choice of architecture

From: chbrai@kf9ug.#nin.in.usa.noam
Date: 12 Mar 98 11:08:00 GMT
To: dsp@tapr.org
Message-ID: <29561chbrai@fwa.bbs>
Rendered body type: text/plain

R:980312/1108z @:KF9UG.#NIN.IN.USA.NOAM [EN71LD] #:24243 $:29561chbrai Z:46835

Thomas Sailer wrote:
>
> Doug Braun wrote:
> > are reasonably good APIs in Win 95 and NT, and lots of books,
> > etc. on the subject.
>
> Really? Is there now an API that allows low latency input and
> output? Can you enlighten me? I even had to hack around

I would interested as well, I am no Windows programmer, but
have been playing round interfacing to a Creative Labs Soundcard
using DMA in DOS (DJGPP). It would be nice to do the same thing in
Win95 or NT.

- Charles G4GUO

## 72. [DSP:854] Re: MMX, etc.

From: sailer@kf9ug.#nin.in.usa.noam
Date: 16 Mar 98 08:50:00 GMT
To: dsp@tapr.org
Message-ID: <6213sailer@fwa.bbs>

Rendered body type: text/plain

R:980316/0850z @:KF9UG.#NIN.IN.USA.NOAM [EN71LD] #:26582 $:6213sailer Z:46835

dbraun@cadev6.intel.com wrote:

> The code below executes at 64 MFLOPS on my 200MHz MMX.
> (Where each step of the MAC routine counts as 2 FLOPS).
> This is compiled with MS Visual C++ 4.0

How did you measure this? Is this including memory accesses
or just from L1 cache? (seems the latter).

Can you provide the asm generated by your compiler?
Your results are pretty coherent with Phil Karns results,
but he had to use assembly and carefully scheduling insns
by hand in an unrolled loop.

Tom

## 73. [DSP:859] Sound discrimination device

From: efbrya@kf9ug.#nin.in.usa.noam
Date: 17 Mar 98 22:40:00 GMT
To: dsp@tapr.org
Message-ID: <1463tim@fwa.bbs>
Rendered body type: text/plain

R:980317/2240z @:KF9UG.#NIN.IN.USA.NOAM [EN71LD] #:27476 Z:46835

Been reading here for a while and have a problem where the answer may or may not be a DSP.

I want to build a device to characterize various audible sounds. The sounds should be easier to distinguish than speech but that is not the heart of the problem. The problem is this is a battery powered device and needs to have very low power consumption. This means that either the DSP has to run at low duty cycles, or much of the data processing needs to be done in analog circuits. I had investigated using the filter product for a graphic equilizer display but the power consumption on that device alone was 17mA. I want to get power consumption for the whole device under 5mA average. Circuit Cellar recently had a neat article about a simple speech recognition system that made the incoming signal into a varying duty cycle square wave and used a micro to count and time these transitions and match against a table. Problem with that is the micro has to run constantly eating power. I could do part of this in an EPLD and get power down. Does anyone have any better suggestions for a low cost, low power sound discrimination system?

Eric Bryan
efbrya@acxiom.com

## 74. [DSP:855] Re: MMX, etc.

From: dbraun@kf9ug.#nin.in.usa.noam
Date: 16 Mar 98 14:12:00 GMT
To: dsp@tapr.org
Message-ID: <50442dbraun@fwa.bbs>
Rendered body type: text/plain

R:980316/1412z @:KF9UG.#NIN.IN.USA.NOAM [EN71LD] #:26679 $:50442dbraun Z:46835

I ran the loop something like 500000 times, and measured
the elapsed time. I assume that the data and code were in L1.

I cannot mail the asm right now, becasue I am away from my
machine on a business trip thru next week. I looked at it, and I remember
that the compiler was smart enought to interleave the FP and
pointer manipulations instructions.

Doug

## 75. [DSP:861] Re: EVM usage under Linux

From: jkuehn@kf9ug.#nin.in.usa.noam
Date: 20 Mar 98 13:16:00 GMT
To: dsp@tapr.org
Message-ID: <16974jkuehn@fwa.bbs>
Rendered body type: text/plain

R:980320/1316z @:KF9UG.#NIN.IN.USA.NOAM [EN71LD] #:29029 $:16974jkuehn Z:46835

Could you please send me a copy of the
ftp:///ftp.pfnet.com/pub/m56k/evm56k-0.2.9.tar.gz  file.

I checked out your QSL.NET web page but could not find it there.

You can either send it directly at this email address, or let me know if you put it
up on your page.

Thanks
John Kuehn N3YYJ

Jim Lynch wrote:

> Hi, Johan,
>
> I'll be glad to put it on my web page on qsl.net if you want.
>
> Jim.
> >
> > I originally downloaded it from
> > ftp://ftp.pfnet.com/pub/m56k/evm56k-0.2.9.tar.gz , but this FTP server does
> > not allow guest accounts any longer. Perhaps the code migrated somewhere
> > else if you could find it. I tried contacting the author, but got no
> > response to my e-mails. Best is if I e-mail what I have to whoever needs it.
> > Just re-mail me please (123k for the .tgz file).
> >
> > 73,
> >
> > --Johan
>
> --
> Jim Lynch           Fayetteville, GA            K4GVO
> '86 GL1200I '96 GL1500A

## 76. [DSP:865] remove

From: macart@kf9ug.#nin.in.usa.noam
Date: 22 Mar 98 21:08:00 GMT
To: dsp@tapr.org
Message-ID: <63897macart@fwa.bbs>
Rendered body type: text/plain

R:980322/2108z @:KF9UG.#NIN.IN.USA.NOAM [EN71LD] #:30521 $:63897macart Z:46835


dsp@tapr.org wrote:

>                              DSP Digest 314
>
> Topics covered in this issue include:
>
>   1) X86 for DSP
>         by Douglas Braun <dbraun@iil.intel.com>
>
> ------------------------------------------------------------------------
>
> Date: Sun, 22 Mar 1998 09:13:50 +0300
> From: Douglas Braun <dbraun@iil.intel.com>
> To: dsp@tapr.org
> Subject: X86 for DSP
> Message-ID: <9803220613.AA35692@ilx045.iil.intel.com>
>
> Something to look forward to: In the next year or so, all the X86
> CPU vendors (Intel, AMD, Cyrix, etc.) will be introducing new
> MMX-style instructions in their new CPU models. The goal is to
> accelerate 3-D geometry calculation (as opposed to rendering),
> and these new instructions will generally work with FP instead of
> integer data. There is a very informative article from Byte
> magazine at:
>
>   http://www.byte.com/art/9712/sec5/art2.htm
>
> The downside is that each company has designed their own set of
> extensions. The assumption is that APIs like MS's Direct3D will
> hide the differences, but for DSP algorithms, you would need
> to use the new instructions directly, and the could would
> ve CPU-vendor-dependent...
>

> Doug Braun
> SV/N1OWU
>
> ------------------------------
>
> End of DSP Digest 314
> **********************



--
"The future belongs to those who believe in the beauty of their dreams."

## 77. [DSP:864] Being a Better Educator

From: pub@kf9ug.#nin.in.usa.noam
Date: 22 Mar 98 12:05:00 GMT
To: dsp@tapr.org
Message-ID: <16pub@fwa.bbs>
Rendered body type: text/plain

R:980322/1205z @:KF9UG.#NIN.IN.USA.NOAM [EN71LD] #:30202 $:16pub Z:46835

Being a Better Educator
Dear educator:

Today, more than ever, we need innovative new solutions to
educational problems.

        "Kevin Kirchman's book Aspirations is an answer
        to education questions such as 'How do we teach
        students to think for themselves, fulfill their
        potential, be creative, gain self esteem, and be
        ready for this productive world?'

        "His book is a must for all educators from pre-school
        through graduate school. I wish his book had been
        available during my 42 year teaching career."
                 Norma Silver
                 Retired teacher, Fort Lee, NJ

Introducing,
         Aspirations: The Rational Foundations of Achievement.

The reason it is possible to have an entirely new perspective on
educational issues is because the theory behind education, called
epistemology, or the theory of knowledge, has _not_ been an
empirical
science.

Epistemology is to education what physics is to engineering--
but until the basis was discovered for _principles_ of
understanding,
there could be no science, and no applications that would
radically
transform educational practices.

That is until now.

        "If knowledge of the humanities is subjective, that is,
only
        valid  for the person who holds it, of what value is
        education?

        "Knowledge is not subjective. There are some conceptual
        models that are better--more accurate and enlightening--
        than others."
                Aspirations

Aspirations will show you why, and teach you precisely how to
tell the
difference.

        "[Aspirations] lays out the foundations of clear,
critical
        thinking, that can help us to better understand
ourselves,
        others, and the world around us. In the final analysis,
we are
        all decision makers. Don't make many more important

decisions
before you read and grasp Aspirations."
Frank L. David
Co-Principal, Business Learning Centers
Murrieta, CA

Perhaps the last earthly frontier, the mind, has been finally penetrated by this wonderful new book. Aspirations won't give you old ideas about the mind that you've seen before. It's radically new.

Aspirations shows how, because of an old philosophical problem, educators are unwittingly discouraging idea forming habits that occur through the mental process of induction, or generalization. The
book shows how these inductive concepts are the basis of all abilities
and character.

Deterring concept formation has the effects of hindering individuality, stifling general competency and causing people to be
more dependent upon the ideas formed by others (being less able to
form them themselves). The book presents a new solution to this dilemma which describes the mental events that occur during concept
formation that can be practiced and made habit.

Aspirations makes it clear that if you are less able to form concepts of your own, you necessarily have to borrow those formed by
others. This discourages individuality, creativity, and self-reliance.
It is also the basis for a host of psychological problems, from prejudice and intolerance to low self-esteem.

Set within the context of human intellectual history, Aspirations stands out as a unique and controversial contribution to our understanding of ourselves.

Fascinating reading. A journey deep into the corners of the
mind and down the paths of civilization□s philosophical development.

The author of Aspirations, Kevin Kirchman, a Cornell University educated Artificial Intelligence scientist, lecturer and businessman,
has actually utilized his new understanding of innovation to develop
original perspectives on

* deduction, or what reasoning is
* induction, the basis of all innovation and creativity
* character formation

and these new ideas genuinely will aid you not only in teaching better mental habits, but in improving your own.

"[Aspirations] is a self-motivational book for intelligent
people."
Stan Irwin
The Producer of the Tonight Show
with Johnny Carson for 15 years

Rarely in human history is a book produced which has as important implications. Rarely is a book offered which gives us such hope and
inspiration.

Aspirations will soon be promoted nationally by Rogers & Cowan, America□s largest public relations firm. Be the first to learn and
apply these revolutionary new insights.

Table of Contents:
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```
         2    The Problem -- Why Educational Philosophy is
                  Psychologically Debilitating
         3    Concepts -- The Key to Understanding the Mind
         4    Descriptive Concepts -- The Foundation of Clear
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        17    Historical Background and Philosophical Comparison
--
                  Putting the Conceptual Model Theory Into
                  Perspective

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## 78. [DSP:867] Re: Upload of FIRDES: FIR filter coeficients generator

From: tim@kf9ug.#nin.in.usa.noam
Date: 24 Mar 98 00:26:00 GMT
To: dsp@tapr.org
Message-ID: <36037tim@fwa.bbs>
Rendered body type: text/plain

R:980324/0026z @:KF9UG.#NIN.IN.USA.NOAM [EN71LD] #:31311 $:36037tim Z:46835

>
> I reckon this program may be of interest to the group.
>
> I believe I have to ask Tim to move the files to:
> ftp.tapr.org/tapr/SIG/dsp/recent_uploads
> if he would be so kind.

Hello Richard,

I have moved the files over.

Someday, soon I hope, I will actually organize the recent_uploads directory into
something more understandable...

Tim

## 79. [DSP:874] Off topic: Z85C30 x Z80230

From: mark@kf9ug.#nin.in.usa.noam
Date: 03 Apr 98 23:25:00 GMT
To: dsp@tapr.org
Message-ID: <49868mark@fwa.bbs>
Rendered body type: text/plain

R:980403/2325z @:KF9UG.#NIN.IN.USA.NOAM [EN71LD] #:38668 $:49868mark Z:46835

Hello,

I'm designing a SCC board and would like to know what would be
the advantages of using a Z80230 in place of the well known
Z85C30.

Also if there are advantages in replacing the existing Z85C30
SCC by the new Z80230 ESCC in a Baycom USCC card.

Thanks for any help.

---
Marcelo Puhl - PY3SS
mark@plug-in.com.br
marcelo@ee.pucrs.br

## 80. [DSP:870] Re: WinNT & Win95 API

From: dbraun@kf9ug.#nin.in.usa.noam
Date: 01 Apr 98 21:49:00 GMT
To: dsp@tapr.org
Message-ID: <50615dbraun@fwa.bbs>
Rendered body type: text/plain

R:980401/2149z @:KF9UG.#NIN.IN.USA.NOAM [EN71LD] #:37417 $:50615dbraun Z:46835

When I bought Visual C++ (Professional Edition) it came
with a MSDN CD-ROM.  I stick it in the drive whenever I start
doing any programming...

There is a LOT of stuff on it, and it took me a couple of
hours just to find all the relevant stuff.

Doug

>       The API details are officially available from Microsoft on the Online
>Version of the MSDN Library: "http:\\www.microsoft.com\msdn\" You are
>required to register in order to use the library but is is free of
>charge. It includes full online documentation and you can download from
>several elements in the Platform SDK's which include Header files, Link
>libraries and samples. For DSP work using the sound cards, the is a
>Multimedia Section of the Platform SDK. You can also purchase the full
>library on CD's. There several levels of the library and depending on
>your requirements, it may be usefull tool to have handy for Win32
>Development of any kind.

## 81. [DSP:875] Re: Off topic: Z85C30 x Z80230

From: sailer@kf9ug.#nin.in.usa.noam
Date: 06 Apr 98 14:08:00 GMT
To: dsp@tapr.org
Message-ID: <56019sailer@fwa.bbs>
Rendered body type: text/plain

R:980406/1408z @:KF9UG.#NIN.IN.USA.NOAM [EN71LD] #:40058 $:56019sailer Z:46835

Marcelo Puhl wrote:

> I'm designing a SCC board and would like to know what would be
> the advantages of using a Z80230 in place of the well known
> Z85C30.
>
> Also if there are advantages in replacing the existing Z85C30
> SCC by the new Z80230 ESCC in a Baycom USCC card.

Erm, does it really have to be Zilog? Cirrus Logic has a nice
PCI HDLC controller, the CL-CD4400, which has 4 high speed
channels, PCI busmaster DMA, and even an ARM7 core on chip.
And it should be competitively priced...

Another nice HDLC controller chip is the Hitachi SCA-II
(HD64572). It has 2 channels and a busmaster DMA controller.
The bus is a general purpose microcontroller bus,
so with some glue logic you should be able to make a card
that does ISA busmaster DMA.

The Zilog 230 is said to have a larger FIFO and a better
DMA controller, however I haven't found out (from the Zilog
datasheet) how one would know the frame starts/ends from
DMA'ed data... If you find out per chance how this is supposed
to work (and how you can do back to back frame transfer without
excessive interrupt latency requirements), then let us know!

Tom

## 82. [DSP:866] Upload of FIRDES: FIR filter coeficients generator

From: richar@kf9ug.#nin.in.usa.noam
Date: 23 Mar 98 22:44:00 GMT
To: dsp@tapr.org
Message-ID: <63961richar@fwa.bbs>
Rendered body type: text/plain

R:980323/2244z @:KF9UG.#NIN.IN.USA.NOAM [EN71LD] #:31236 $:63961Richar Z:46835

Hello all,

I reckon this program may be of interest to the group.

I believe I have to ask Tim to move the files to:
ftp.tapr.org/tapr/SIG/dsp/recent_uploads
if he would be so kind.
---------------------------------------------------------------------------=
--
----------
Copy of FIRDES.TXT :

FIRDES(ign) is a small Windows program by DF6JB, Ulrich Bangert,
which can calculate the coefficients of FIR filters. It permits
an (almost) unlimited number of low-pass or high-pass sections
to be incorporated in the same filter and operates with all common
window functions. The coefficients can be output in MOTOROLA , TI
or Matlab format. Operation of the program is hoped to be largely
self explantory however one point that may not be at first obvious
is that in the Plot window, of the filter frequency response one can
set two 'markers' with the left mouse button. These may be erased
by using the 'repaint' button.

A tip for use: A band-pass filter with critical frequencies f1 and
f2 is entered into the program as a combination of a high-pass with
the frequency, f1 and a low-pass with a frequency, f2.

Have fun using the program.

Ulli, DF6JB @ DB0CL =

Note from Richard, ON9BCS / G7JMG :

This program first arrived here by packet Summer 96 and now Ulrich
has sent me this later version with Matlab support with his permission
to upload it to TAPR.
It runs fine under Windows95 but I have not tried to run it under
Windows 3.1X
BTW: It is Ulrich who designed the EasyDSP, details of this are at:
http://ourworld.compuserve.com/homepages/HFFAX/toc32.htm
I reckon that 'Abbruch' probably means Cancel in German : )
------------------------------------------------------------------------=
--
----------

regards - Richard ON9BCS / G7JMG

## 83. [DSP:869] WinNT & Win95 API

From: carrei@kf9ug.#nin.in.usa.noam
Date: 01 Apr 98 19:17:00 GMT
To: dsp@tapr.org
Message-ID: <13983carrei@fwa.bbs>
Rendered body type: text/plain

R:980401/1917z @:KF9UG.#NIN.IN.USA.NOAM [EN71LD] #:37325 $:13983carrei Z:46835

I've been following the recent string of messages and notice some =
people were interested in the Win API for use in DSP, but no one realy =
came up with the info. It was in respect to the follow statements:

> Doug Braun wrote:
> > are reasonably good APIs in Win 95 and NT, and lots of books,
> > etc. on the subject.

Well, here is the info:

The API details are officially available from Microsoft on the Online =
Version of the MSDN Library: "http:\\www.microsoft.com\msdn\" You are =
required to register in order to use the library but is is free of =
charge. It includes full online documentation and you can download from =
several elements in the Platform SDK's which include Header files, Link =
libraries and samples. For DSP work using the sound cards, the is a =
Multimedia Section of the Platform SDK. You can also purchase the full =
library on CD's. There several levels of the library and depending on =
your requirements, it may be usefull tool to have handy for Win32 =
Development of any kind.

You can also find these API details and headers in the compiler =
software such as Borland C++, Microsoft Visual C++ & Microsoft Visual =
Basic as well as many other conpilers.

If have been using these API for DSP work in several areas, even on 486 =
Machines. To trick is to code efeciently and be imaginative. I have =
solved many DSP problems by making use of unconventiona methode instead =
of the standard FFT, FIR, etc. Methods such as pattern matching, =
graphical equivalets and Wavelets.

Hope the information has been usefull. I don't always follow the mail =
list, so if you require any other info, drop me an E-Mail message.

---
Fernando M. I. Carreiro (ZS6BLF)
carreiro.fmi@mail.telepac.pt

## 84. [DSP:868] EVM BIOS bug

From: forrer@kf9ug.#nin.in.usa.noam
Date: 26 Mar 98 04:03:00 GMT
To: dsp@tapr.org
Message-ID: <31978forrer@fwa.bbs>
Rendered body type: text/plain

R:980326/0403z @:KF9UG.#NIN.IN.USA.NOAM [EN71LD] #:33361 $:31978forrer Z:46835

Hi all EVM users,

Jim Wilson, WA5BRB, pointed out a possible bug in the EVM low-level bios.

In the port from the ALEFNULL "BOOT" program code to the EVM, I changed the
CODEC's number of words per frame from 16 to 4 and left the BOOT code

intact, however still expecting 16 words per frame in some of the
inilitialization code. For some unknown reason this does not crash the CODEC..

To fix this, look in my original BIOS.asm, or Doug's BIOS2.asm,  for the
label "opencd" and just following that, change the constant for CRA to read
the following.

```
 movep   #$4F03,x:m_cra  ;40MHz/16 = 2.5MHz SCLK, WL=16 bits, 16W/F
```

This is definately a bug, but if it does'nt bother you, just leave it. I
will distribute the fix in future code releases.

Thanks Jim for pointing this out!

--Johan

## 85. Deja Vu?

From: Tim Baggett <tim@aa5df.sps.mot.com>
Date: Mon, 20 Apr 1998 17:52:25 -0500 (CDT)
To: dsp@tapr.org
Message-ID: <199804202252.RAA20231@aa5df.dsp>
Rendered body type: text/plain

Gotta love those PBBS's....Haven't been on packet for several years and they
still haunt me!

## 86. [DSP:856] Tone detection

From: ke6scs@kf9ug.#nin.in.usa.noam
Date: 16 Mar 98 19:07:00 GMT
To: dsp@tapr.org
Message-ID: <35216ke6scs@fwa.bbs>
Rendered body type: text/plain

R:980316/1907z @:KF9UG.#NIN.IN.USA.NOAM [EN71LD] #:26749 $:35216ke6scs Z:46835

I'm sort of new to the DSP world. Are there any good methods for using
DSP for tone detection? I would like to detect DTMF and/or subaudible
using a x86 (in assembly) and a soundblaster. This might not be
feasible, but I'd like to explore it.

Steve Curtis
http://www.qsl.net/ke6scs

_____
Get Your Private, Free Email at http://www.hotmail.com

## 87. [DSP:857] Tone detection -Reply

From: tancmi@kf9ug.#nin.in.usa.noam
Date: 17 Mar 98 01:03:00 GMT
To: dsp@tapr.org
Message-ID: <29533tancmi@fwa.bbs>
Rendered body type: text/plain

R:980317/0103z @:KF9UG.#NIN.IN.USA.NOAM [EN71LD] #:26998 $:29533TANCMI Z:46835

I'd like to know the answer too.

Thank you

TCM

## 88. Re: [DSP:922] Re: Choice of architecture

From: RLANIER@mailb.harris.com (RLANIER)
Date: Tue, 21 Apr 1998 09:12:22 -0400
To: dsp@tapr.org
Message-ID: <000E7EC5.1702@mailb.harris.com>
Rendered body type: text/plain

Johan Forrer wrote:

> If the interest is in software transceivers for HF, VHF, and microwave work,
> there are excellent work being done using the Analog Devices 2181 EZKIT
> ($89).

Johan,

Which group is doing this work? Is it G.R.A.P.E.S. ?

Just curious,

Tony  KE4ATO

## 89. Re: [DSP:953] Deja Vu?

From: Lyndon Nerenberg <lyndon@ve7tcp.ampr.org>
Date: Tue, 21 Apr 1998 14:50:44 -0600
To: dsp@tapr.org
Message-ID: <199804212050.OAA16935@ve7tcp.ampr.org>
Rendered body type: text/plain

>>>>> "Tim" == Tim Baggett <tim@aa5df.sps.mot.com> writes:

    Tim> Gotta love those PBBS's....Haven't been on packet for several
    Tim> years and they still haunt me!

And what with these completely bogus From: headers?

    From:  ke6scs@kf9ug.#nin.in.usa.noam

That ain't no RFC822 address, Martha! (I don't care *what* Reply-To: is
set to, those addresses shouldn't be leaking into 822 address fields.)

--lyndon

## 90. Re: [DSP:956] Re: Choice of architecture

From: forrerj@peak.org (Johan Forrer)
Date: Tue, 21 Apr 1998 17:54:25 -0800
To: dsp@tapr.org
Message-ID: <199804220056.RAA03025@peak.org>
Rendered body type: text/plain

Tony,

Not sure what the GRAPES group is doing --- I was actually referring to the
"GNOME" group's project that uses a 2181 EZ-KIT in a microwave receiver's
IF. Some of this work have been presented at the ARRL Microwave Conferences.

--Johan


>
>Johan Forrer wrote:
>
>> If the interest is in software transceivers for HF, VHF, and microwave work,
>> there are excellent work being done using the Analog Devices 2181 EZKIT
>> ($89).
>
>
>Johan,
>
>Which group is doing this work? Is it G.R.A.P.E.S. ?
>
>Just curious,
>
>Tony  KE4ATO
>
>

## 91. Re: [DSP:954] Tone detection

From: Bob Doyle <doyle@primenet.com>
Date: Tue, 21 Apr 1998 21:58:56 -0700
To: dsp@tapr.org
Message-ID: <353D7910.72CC5406@primenet.com>
Rendered body type: text/plain

ke6scs@kf9ug.#nin.in.usa.noam wrote:
>
> R:980316/1907z @:KF9UG.#NIN.IN.USA.NOAM [EN71LD] #:26749 $:35216ke6scs Z:46835
>
> I'm sort of new to the DSP world. Are there any good methods for using
> DSP for tone detection? I would like to detect DTMF and/or subaudible
> using a x86 (in assembly) and a soundblaster. This might not be
> feasible, but I'd like to explore it.

Do a web search for the word Goertzel.

73, Bob
WA3TGF

## 92. Converting DOS to Win95

From: Charles Brain <chbrain@dircon.co.uk>
Date: Tue, 28 Apr 1998 09:51:57 +0100
To: "dsp@tapr.org" <dsp@tapr.org>
Message-ID: <354598AD.6C7531A1@dircon.co.uk>
Rendered body type: text/plain

Hello,

Does anyone know of an easy guide to converting a DOS application
that uses interrupts to Native Win95/NT?

I want to port a mFSK modem I have written for the P.C that uses the
soundcard from DOS to, first a console mode Win32 application, later
maybe full blown Windows.

I think you have to buy the developers kit from Microsoft. This stuff
is so much easier under DOS.

- Charles

## 93. Re: [DSP:960] Converting DOS to Win95

From: "Steve Curtis" <ke6scs@hotmail.com>
Date: Tue, 28 Apr 1998 13:10:30 PDT
To: dsp@tapr.org
Message-ID: <19980428201030.15904.qmail@hotmail.com>
Rendered body type: text/plain

If you are using assembly, try the package at this URL:

http://www.programmersheaven.com/files/asm/WALK32_1.ZIP

----Original Message Follows----
From: Charles Brain <chbrain@dircon.co.uk>
To: dsp@tapr.org
Subject: [DSP:960] Converting DOS to Win95

Hello,

Does anyone know of an easy guide to converting a DOS application
that uses interrupts to Native Win95/NT?

I want to port a mFSK modem I have written for the P.C that uses the
soundcard from DOS to, first a console mode Win32 application, later
maybe full blown Windows.

I think you have to buy the developers kit from Microsoft. This stuff
is so much easier under DOS.

- Charles

_____
Get Your Private, Free Email at http://www.hotmail.com

## 94. Re: [DSP:960] Converting DOS to Win95

From: Jim Sanford <jsanfor@exis.net>
Date: Tue, 28 Apr 1998 20:08:37 -0400
To: dsp@tapr.org
Message-ID: <35466F85.EF74C17D@exis.net>
Rendered body type: text/plain

Charles:
Try running it as-is in a DOS box under windoze.  That's how I run all
myh DOS satellite tracking stuff....

Good luck and 73,

Jim

wb4gcs@amsat.org

Charles Brain wrote:

> Hello,
>
> Does anyone know of an easy guide to converting a DOS application
> that uses interrupts to Native Win95/NT?
>
> I want to port a mFSK modem I have written for the P.C that uses the
> soundcard from DOS to, first a console mode Win32 application, later
> maybe full blown Windows.
>
> I think you have to buy the developers kit from Microsoft. This stuff
> is so much easier under DOS.
>
> - Charles

## 95. Re: [DSP:960] Converting DOS to Win95

From: "Louis Cobet" <louis_cobet@email.msn.com>
Date: Tue, 28 Apr 1998 21:20:47 -0700
To: <dsp@tapr.org>
Message-ID: <04e474523041d48UPIMSSMTPUSR03@email.msn.com>
Rendered body type: text/plain

Unfortunately, this is a substantial task. I would think you have to write a device driver to handle the interrupts. One aspect of the 32 bit Microsoft operating systems as opposed to the 16 bit Windows 3.1 or DOS is to protect the operating system from programs. Only device drivers and the operating system (OS) can directly address the hardware. A program would use device drivers and the operating system to carry out its tasks. Under Windows NT, supposedly, a program could crash and the OS and other programs would keep on working.

Common estimates are its 6 months on the learning curve for experienced programmers new to the windows operating system.

However, I think it would be great if more code were written for our hobby to run under 32 bit Windows. Check out www.microsoft.com to start.

Louis Cobet, K6MDH
louis_cobet@email.msn.com

you wrote
>Hello,
>
>Does anyone know of an easy guide to converting a DOS application
>that uses interrupts to Native Win95/NT?
>
>I want to port a mFSK modem I have written for the P.C that uses the
>soundcard from DOS to, first a console mode Win32 application, later
>maybe full blown Windows.
>
>I think you have to buy the developers kit from Microsoft. This stuff
>is so much easier under DOS.
>
>- Charles
>

## 96. Re: [DSP:963] Re: Converting DOS to Win95

From: forrerj@peak.org (Johan Forrer)
Date: Tue, 28 Apr 1998 22:15:38 -0800
To: dsp@tapr.org
Message-ID: <199804290517.WAA20426@peak.org>
Rendered body type: text/plain

Hi Charles,

Not a pretty picture, but Karen Hazza's book on "Writing Windows VxDs and Device Drivers" shows a couple of options. On a fast machine you probably can get away using a DLL and doing port I/O pretty much as you would do it under DOS, with of course, a penalty with the virtualization of hardware.

VxD's are not simple to say the least. You need the MS Developers CDROMs for the DDK/SDK or alternatively Vireo's device driver kit and a good debugger like for example, Numega's.

Good luck!

Johan

Book's ISBN: 0-87930-438-3, published by R&D Books, Second Edition.

## 97. Re: [DSP:960] Converting DOS to Win95

From: Charles Brain <chbrain@dircon.co.uk>
Date: Wed, 29 Apr 1998 07:28:04 +0100
To: dsp@tapr.org
Message-ID: <3546C874.44B9A2F5@dircon.co.uk>
Rendered body type: text/plain

Thanks everyone,

It is as I expected, difficult. Currently I am using the DJGPP
compiler tools (P.C version of GCC). The application runs fine
in a DOS box, it is just that it would be better to be Win32.

I did read of a technique of getting a DOS application to talk
to a windows application, but that is a compromise as well.

There are also some libraries that allow DJGPP to generate Win32
code but again they require the Microsoft Developers CDROM. Which
you can't buy, you have to join their developers program and you
then get deluged with beta releases of NT and Japanese versions of
Win95!

I think for the moment I will carry on with my extended DOS
application and concentrate on adding more features to it.

In case anyone is interested the application is a FS1045A ALE
controller. It has a bit of a history (as Johan knows)! Still
I thought the ARES/RACES people might be able to use it to talk
to their Federal Government. It still has a few bugs, but my best DX
on it so far (rx only) has been Diego Garcia in the Indian Ocean!

- Charles G4GUO

## 98. Re: [DSP:963] Re: Converting DOS to Win95

From: Paul Reeves +44 1935 442851 <paul.r.reeves@gecm.com>
Date: Wed, 29 Apr 1998 07:55:09 +0000 (GMT)
To: dsp <dsp@tapr.org>
Message-ID: <7609550729041998/A03619/TEMAIL/11C4E9F70800*@MHS>
Rendered body type: text/plain

At the risk of starting an 'operating system wars' in these pages - perhaps instead of rewriting DOS
applications to run under Windoze you should be considering the installation of a REAL operating system
such as LINUX. 32 bit, full multitasking, multiuser,loads of apps, all the support tools you could
wish......
I will have to admit the learning curve is somewhat steep at times though.

Paul Reeves,  G8GJA
paul.r.reeves@gecm.com

## 99. Re: [DSP:966] Re: Converting DOS to Win95

From: Jaakko Koivuniemi <jaakko@boojum.hut.fi>
Date: Wed, 29 Apr 1998 10:26:40 +0300 (EEST)
To: dsp@tapr.org
Message-ID: <199804290726.KAA19304@boojum.hut.fi>
Rendered body type: text/plain

> At the risk of starting an 'operating system wars' in these pages - perhaps instead of rewriting DOS
applications to run under Windoze you should be considering the installation of a REAL operating system
such as LINUX. 32 bit, full multitasking, multiuser,loads of apps, all the support tools you could
wish......
In Linux you can find also dosemu for emulating
MicroSoft-DisketOperatingSystem(TM) and Wine for Win3.1 and Win95.
Of course these have their limitations and not everything can be
run. The Wine has homepage: http://www.winehq.com.

> I will have to admit the learning curve is somewhat steep at times though.

Agreed.

--
Jaakko Koivuniemi
oh7bf

## 100. Re: [DSP:966] Re: Converting DOS to Win95

From: Charles Brain <chbrain@dircon.co.uk>
Date: Wed, 29 Apr 1998 09:35:02 +0100
To: dsp@tapr.org
Message-ID: <3546E636.860781FC@dircon.co.uk>
Rendered body type: text/plain

Paul Reeves +44 1935 442851 wrote:

>should be considering the installation of a REAL operating system
>such as LINUX. 32 bit, full multitasking, multiuser,loads of apps,
>all the support tools you could wish......
>I will have to admit the learning curve is somewhat steep at times though.

Hello Paul,

I already have Linux running on one of my machines. So you are talking to the converted. However there are many more people in the world running Windows than Linux. Sad fact I am afraid.

Although technically inferior my target audience for this SW are almost certain to be Windows users.

- Charles

## 101. Re: [DSP:968] Re: Converting DOS to Win95

From: Bdale Garbee <bdale@gag.com>
Date: Wed, 29 Apr 1998 14:29:27 -0600
To: dsp@tapr.org
Message-ID: <199804292029.OAA21520@chunks.gag.com>
Rendered body type: text/plain

In article <3546E636.860781FC@dircon.co.uk> you wrote:

: However there are many more people in the world running Windows than
: Linux. Sad fact I am afraid.

True.  However, why would anyone want to help the spread of a boot-sector virus like Windows by porting yet more code to it?  If 1% of the people who said "yeah, Linux is great, but more people run Windows" were to do something about it by porting their bits to Linux instead of Windows... my, what a world we'd be living in...

:-)

If you're planning to make money from it, market size matters.  If you're doing it for yourself and would be pleased if others like it too, then do what's right.

Bdale, N3EUA

## 102. Re: [DSP:969] Re: Converting DOS to Win95

From: Charles Brain <chbrain@dircon.co.uk>
Date: Wed, 29 Apr 1998 22:50:44 +0100
To: dsp@tapr.org
Message-ID: <3547A0B4.B5597C48@dircon.co.uk>
Rendered body type: text/plain

Bdale Garbee wrote:

> If you're planning to make money from it, market size matters.  If you're
> doing it for yourself and would be pleased if others like it too, then do
> what's right.
>
> Bdale, N3EUA

Yes I guess your right, maybe I will use RTEMS instead.

- Charles

## 103. Fw: Simple DC radio for DSP experiments

From: "Don Elsner" <elsner@csd.uwm.edu>
Date: Wed, 29 Apr 1998 21:25:10 -0500
To: <dsp@tapr.org>
Message-ID: <01bd73df$32d59000$040120c0@don>
Rendered body type: text/plain

I pulled this off of comp.dsp news - thought it might be of interest to the group

73 - Don KS9F

-----Original Message-----
From: Leon Heller <leon@lfheller.demon.co.uk>
Newsgroups: rec.radio.amateur.homebrew,comp.dsp
Date: Wednesday, April 29, 1998 6:53 AM
Subject: Simple DC radio for DSP experiments


>I've developed a simple direct-conversion receiver based on Rick
>Campbell's designs, for experimenting with DSP filtering and
>demodulation. The diplexer is taken from the Mini R2 because of its
>simplicity and the easily available capacitors, and the audio pre-amp is
>the R2 version, with the emitter follower on the output. I've added an
>op-amp for additional audio gain. Just use one of the Rxs for a
>conventional DC radio feeding a DSP system for audio filtering (I'm
>using the ADI EZ-KIT Lite) or two of them with quadrature oscillator
>circuitry and an RF splitter for a phasing Rx.
>
>Details are on:
>
>        http://www.lfheller.demon.co.uk/dc_rx.htm
>
>My prototype was wired up "ugly" fashion on a scrap of PCB material.
>I've designed a PCB, and will be adding a PS file for the artwork to the
>web page, when I've made one and checked it out.
>
>I'm using a DDS (AD9850) local oscillator controlled by my PC, with the
>Rx, on 40 m. The radio is working quite well, although some of the
>colossal signals we get here in the UK on 40 m in the evening are
>causing overload problems, even with a titchy shielded loop antenna.
>I'll eventually be moving everything up to 6 m, and adding a Tx.
>
>Leon
>--
>Leon Heller: leon@lfheller.demon.co.uk http://www.lfheller.demon.co.uk
>Amateur Radio Callsign G1HSM    Tel: +44 (0) 118 947 1424
>See http://www.lfheller.demon.co.uk/dds.htm for details of my AD9850
>DDS system. See " "/diy_dsp.htm for a simple DIY DSP ADSP-2104 system.

## 104. Re: [DSP:970] Re: Converting DOS to Win95

From: Bdale Garbee <bdale@gag.com>
Date: Wed, 29 Apr 1998 23:12:02 -0600
To: dsp@tapr.org
Message-ID: <199804300512.XAA00533@chunks.gag.com>
Rendered body type: text/plain

In article <3547A0B4.B5597C48@dircon.co.uk> you wrote:

: Yes I guess your right, maybe I will use RTEMS instead.

        :-)

Bdale

## 105. Re: [DSP:969] Re: Converting DOS to Win95

From: Jaakko Koivuniemi <jaakko@boojum.hut.fi>
Date: Thu, 30 Apr 1998 09:44:18 +0300 (EEST)
To: dsp@tapr.org
Message-ID: <199804300644.JAA28272@boojum.hut.fi>
Rendered body type: text/plain

> If you're planning to make money from it, market size matters.  If you're
> doing it for yourself and would be pleased if others like it too, then do
> what's right.

Real programmers do a version for each OS. Linux is a good start, but that
should not hinder from making it to work in Win95 or even Mac too ;-)

--
Jaakko Koivuniemi
oh7bf

## 106. Re: [DSP:973] Re: Converting DOS to Win95

From: Thomas Sailer <sailer@ife.ee.ethz.ch>
Date: Thu, 30 Apr 1998 10:31:37 +0200
To: dsp@tapr.org
Message-ID: <354836E9.4D37@ife.ee.ethz.ch>

Rendered body type: text/plain

Jaakko Koivuniemi wrote:

> Real programmers do a version for each OS. Linux is a good start, but that
> should not hinder from making it to work in Win95 or even Mac too ;-)

Do real programmers earn enough to afford M$ docs?
(Of course, real programmers do the tools by themselves)

If so, I'm doing something wrongly 8)

Tom

## 107. Re: [DSP:969] Re: Converting DOS to Win95

From: RLANIER@mailb.harris.com (RLANIER)
Date: Thu, 30 Apr 1998 09:08:43 -0400
To: dsp@tapr.org
Message-ID: <00111689.1702@mailb.harris.com>
Rendered body type: text/plain

> If you're planning to make money from it, market size matters.  If you're
> doing it for yourself and would be pleased if others like it too, then do
> what's right.

> Bdale, N3EUA

Amen, brother !

## 108. Re: Converting Dos to Win

From: Mike <kc4qn@bellatlantic.net>
Date: Thu, 30 Apr 1998 20:23:11 -0400
To: dsp@tapr.org
Message-ID: <3.0.5.32.19980430202311.007e2220@postoffice2.bellatlantic.net>
Rendered body type: text/plain

At 04:07 AM 4/30/98 -0500, you wrote:
>                            DSP Digest 335
>
>Topics covered in this issue include:
>
>  1) Re: Converting DOS to Win95
>       by Bdale Garbee <bdale@gag.com>
>  2) Re: Converting DOS to Win95
>       by Charles Brain <chbrain@dircon.co.uk>
>  3) Fw: Simple DC radio for DSP experiments
>       by "Don Elsner" <elsner@csd.uwm.edu>
>  4) Re: Converting DOS to Win95
>       by Bdale Garbee <bdale@gag.com>
>  5) Re: Converting DOS to Win95
>       by Jaakko Koivuniemi <jaakko@boojum.hut.fi>
>  6) Re: Converting DOS to Win95
>       by Thomas Sailer <sailer@ife.ee.ethz.ch>
>
>----------------------------------------------------------------------
>
>Date: Wed, 29 Apr 1998 14:29:27 -0600
>From: Bdale Garbee <bdale@gag.com>
>To: dsp@tapr.org
>Subject: Re: Converting DOS to Win95
>Message-ID: <199804292029.OAA21520@chunks.gag.com>
>
>In article <3546E636.860781FC@dircon.co.uk> you wrote:
>
>: However there are many more people in the world running Windows than
>: Linux. Sad fact I am afraid.
>
>True.  However, why would anyone want to help the spread of a boot-sector
>virus like Windows by porting yet more code to it?  If 1% of the people who
>said "yeah, Linux is great, but more people run Windows" were to do something
>about it by porting their bits to Linux instead of Windows... my, what a
>world we'd be living in...
>
>:-)
>
>If you're planning to make money from it, market size matters.  If you're
>doing it for yourself and would be pleased if others like it too, then do
>what's right.

>
>Bdale, N3EUA
>
>
>------------------------------
>
>Date: Wed, 29 Apr 1998 22:50:44 +0100
>From: Charles Brain <chbrain@dircon.co.uk>
>To: dsp@tapr.org
>Subject: Re: Converting DOS to Win95
>Message-ID: <3547A0B4.B5597C48@dircon.co.uk>
>
>Bdale Garbee wrote:
>
>> If you're planning to make money from it, market size matters.  If you're
>> doing it for yourself and would be pleased if others like it too, then do
>> what's right.
>>
>> Bdale, N3EUA
>
>Yes I guess your right, maybe I will use RTEMS instead.
>
>- Charles
>
>
>------------------------------
>
>Date: Wed, 29 Apr 1998 21:25:10 -0500
>From: "Don Elsner" <elsner@csd.uwm.edu>
>To: <dsp@tapr.org>
>Subject: Fw: Simple DC radio for DSP experiments
>Message-ID: <01bd73df$32d59000$040120c0@don>
>
>I pulled this off of comp.dsp news - thought it might be of interest to the
>group
>73 - Don KS9F
>
>-----Original Message-----
>From: Leon Heller <leon@lfheller.demon.co.uk>
>Newsgroups: rec.radio.amateur.homebrew,comp.dsp
>Date: Wednesday, April 29, 1998 6:53 AM
>Subject: Simple DC radio for DSP experiments
>
>
>>I've developed a simple direct-conversion receiver based on Rick
>>Campbell's designs, for experimenting with DSP filtering and
>>demodulation. The diplexer is taken from the Mini R2 because of its
>>simplicity and the easily available capacitors, and the audio pre-amp is
>>the R2 version, with the emitter follower on the output. I've added an
>>op-amp for additional audio gain. Just use one of the Rxs for a
>>conventional DC radio feeding a DSP system for audio filtering (I'm
>>using the ADI EZ-KIT Lite) or two of them with quadrature oscillator
>>circuitry and an RF splitter for a phasing Rx.
>>
>>Details are on:
>>
>>        http://www.lfheller.demon.co.uk/dc_rx.htm
>>
>>My prototype was wired up "ugly" fashion on a scrap of PCB material.
>>I've designed a PCB, and will be adding a PS file for the artwork to the
>>web page, when I've made one and checked it out.
>>
>>I'm using a DDS (AD9850) local oscillator controlled by my PC, with the
>>Rx, on 40 m. The radio is working quite well, although some of the
>>colossal signals we get here in the UK on 40 m in the evening are
>>causing overload problems, even with a titchy shielded loop antenna.
>>I'll eventually be moving everything up to 6 m, and adding a Tx.
>>
>>Leon
>>--
>>Leon Heller: leon@lfheller.demon.co.uk http://www.lfheller.demon.co.uk
>>Amateur Radio Callsign G1HSM    Tel: +44 (0) 118 947 1424
>>See http://www.lfheller.demon.co.uk/dds.htm for details of my AD9850
>>DDS system. See " "/diy_dsp.htm for a simple DIY DSP ADSP-2104 system.
>
>
>------------------------------
>
>Date: Wed, 29 Apr 1998 23:12:02 -0600

>From: Bdale Garbee <bdale@gag.com>
>To: dsp@tapr.org
>Subject: Re: Converting DOS to Win95
>Message-ID: <199804300512.XAA00533@chunks.gag.com>
>
>In article <3547A0B4.B5597C48@dircon.co.uk> you wrote:
>
>: Yes I guess your right, maybe I will use RTEMS instead.
>
>       :-)
>
>Bdale
>
>
>------------------------------
>
>Date: Thu, 30 Apr 1998 09:44:18 +0300 (EEST)
>From: Jaakko Koivuniemi <jaakko@boojum.hut.fi>
Lots of guys and gals on the programmers newsgroups have written functions
to replace the dos calls. I was frustrated awhile back trying to get a
program I had written in dos pascal to compile with the windows compiler
and ask the same question on the newsgroup. Some guy sent me a library he
had written that had all the functions I needed so the only change in the
orignal code needed was an include statement. What I always do is go ahead
and try to compile the original code then look at what errors are generated
and go from there. The people on those newsgroups are friendly and you will
usually get multiple help answers and examples when a question is asked.

# May 1998

Original source file: dsp.9805
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/dspsig/mail_archive/dsp.9805

## 1. Re: [DSP:971] Fw: Simple DC radio for DSP experiments

From: kjh@goober.shoreline-studios.com (Ken Harris)
Date: Fri, 1 May 1998 11:34:23 -0700
To: dsp@tapr.org
Message-ID: <199805011834.LAA10688@goober.shoreline-studios.com>
Rendered body type: text/plain

> From dsp@tapr.org Wed Apr 29 20:11:51 1998

> >I'm using a DDS (AD9850) local oscillator controlled by my PC, with the
> >Rx, on 40 m.

How much does this DDS chip cost?

---
Ken J. Harris  voice:  650/969-7896 x 15  fax: 650/969-7864
mailto:kjh@shoreline-studios.com  http://www.shoreline-studios.com
snail mail: 1804 N. Shoreline Blvd, Ste 240, Mountain View, CA 94043
_/)_/)_/)

## 2. Re: [DSP:977] Re: Fw: Simple DC radio for DSP experiments

From: Charles Brain <chbrain@dircon.co.uk>
Date: Fri, 01 May 1998 20:00:46 +0100
To: dsp@tapr.org
Message-ID: <354A1BDE.798EA92D@dircon.co.uk>
Rendered body type: text/plain

Ken Harris wrote:
>
> > From dsp@tapr.org Wed Apr 29 20:11:51 1998
>
> > >I'm using a DDS (AD9850) local oscillator controlled by my PC, with the
> > >Rx, on 40 m.
>
>         How much does this DDS chip cost?
>
> ---
I am not sure what the U.S price is, but I bought some for about
$30 each in the U.K (including all taxes). They should be cheaper
in the U.S. I control mine using the parallel port of my EVM.

- Charles G4GUO

## 3. 9600 bps modem

From: "Marcelo Puhl" <mark@plug-in.com.br>
Date: Fri, 1 May 1998 17:12:17 -3
To: dsp@tapr.org
Message-ID: <199805012015.RAA05912@bigbox.plug-in.com.br>
Rendered body type: text/plain

Hi,

I'm designing a modem like the PICPAR from DF9IC.
The modem will use a PIC16C84-10 uP with a R-2R network as a DAC.
My problem is how to code the output FIR filter.

Where could I find a software to design the filter ?

Does anyone have the PICPAR source code ?

Thanks for any help.

---
Marcelo Puhl
mark@plug-in.com.br

## 4. Dayton 1998 TAPR Digital Forum and Pack*Bash

From: "Greg Jones, WD5IVD" <wd5ivd@tapr.org>
Date: Sat, 2 May 1998 10:54:47 -0500
To: "HF SIG  list  mailing"<hfsig@tapr.org>, " Spread Spectrum "<ss@tapr.org>,
        " TAPR/AMSAT DSP "<dsp@tapr.org>,
        "APRS SIG  list  mailing"<aprssig@tapr.org>,

Dayton 1998 TAPR Digital Forum and PACK*BASH

Dayton Hamvention will be here later this month. Just as a reminder, the TAPR Digital Forum is on Friday and this year starts much earlier than in years past. In addition, the PacketBASH banquet will be held on Friday night.

If you haven't been to Dayton before, you should think about coming this year. The dates for this year are May 15th - 17th. Check out the web page http://www.tapr.org/tapr/html/dayton.html for any last minute changes in the schedule.

The schedule for the TAPR digital forum on Friday is:

10:00 - 10:05am (5 min)
Introduction to Forum
John Ackermann, N8UR

10:05 - 10:25am (20 min)
TAPR Kit/Project/Organizational Update - Greg Jones , WD5IVD
TAPR Update and discussion on current activities.

10:25 - 10:45am (20 min)
Regulatory Issues - Dewayne Hendricks, WA8DZP
Update on Regulatory Issues related to Digital activity.

10:45 - 11:30am (45 min)
TAPR 900Mhz FHSS Radio Project
Tom McDermott, N5EG / Greg Jones, WD5IVD
Latest Information on Status and design of 900Mhz FHSS Radio Design.

11:30 - 12:15pm (45 min)
GPS Projects - Steve Bible, N7HPR / Tom Clark, W3IWI
TAPR has introduced several GPS related items in the last year.
DGPS, GPS Interface boards, TAC-2, Future TOC add-on, etc

12:15 - 12:30pm (15 min)
Break

12:30 - 1:00pm (30 min)
Linux AX.25 - John Ackermann, N8UR
Making AX.25 play on Linux

1:00pm - 1:45pm (60 min)
APRS SIG and APRS Update
Stan Horzepa, WA1LOU, APRS SIG Chair with the APRS Authors
SIG meeting discussing current and future activities in APRS.

---

PACK*BASH and TAPR Banquet

Attending the 1998 Dayton Hamvention? Then don't miss out on PACK*BASH and TAPR Banquet.

What?
An event for the digitally-inclined ham, featuring:
* Buffet dinner
* Speaker Doug McKinney, KC3RL
discussing GPS and his Bouy projects in the Pacific
* TAPR special interest group meetings
* Prize Drawing!

When?
Friday evening, May 15, 1998
Doors open at 7:00 pm; dinner served at 7:30 pm
Speaker and meetings after dinner

Where?
NCR "Sugarcamp" Conference Center, 101 W. Schantz Ave. --

South of downtown Dayton, just west of Main St. (Rt 48).
Maps available on the TAPR web site or at the TAPR booth.
(http://www.tapr.org/tapr/html/dayton.html)

How?
Dinner requires advance registration and payment through TAPR.
Tickets will be available at the TAPR booth on Friday, though
we strongly encourage registration <before> Hamvention. The cost
is $20.00 per person, tax and tip included.

All amateurs are welcome to attend, enjoy the speaker, and
participate in the meetings, although only those purchasing a
dinner can eat.

To register, contact:
PACK*BASH
c/o TAPR
8987-309 E. Tanque Verde Road #337
Tucson, AZ 85749-9399

Phone: (940) 383-0000
Fax: (940) 566-2544
Internet: tapr@tapr.org

Visa/Mastercard Accepted

Who?
PACK*BASH is co-sponsored by TAPR -- Tucson Amateur Packet
Radio, the national leader in digital communication -- and the
Miami Valley FM Association, Dayton's packet radio club.

For more information (including maps), go to
http://www.tapr.org/tapr/html/dayton.html, or send e-mail to
tapr@tapr.org. You can request information via packet radio at
BASH@N8ACV.#DAY.OH.USA.NOAM.

---
Tucson Amateur Packet Radio
8987-309 E Tanque Verde Rd #337 * Tucson, Az * 85749-9399
---
e-mail: tapr@tapr.org web: <http://www.tapr.org/>
ftp: ftp.tapr.org
phone: 940-383-0000 fax: 940-565-2544
---

## 5. Re: [DSP:979] DSP digest 337

From: Alberto Di Bene <75800340@it.ibm.com>
Date: Sun, 3 May 1998 09:31:20 +0000
To: <dsp@tapr.org>
Message-ID: <512001000838662100000 2L112*@MHS>
Rendered body type: text/plain

> From dsp@tapr.org Wed Apr 29 20:11:51 1998

> >I'm using a DDS (AD9850) local oscillator controlled by my PC, with the
> >Rx, on 40 m.

A couple of questions (which could be answered just by looking at the data
sheet, but I don't have it) :

- Does it have an integrated DAC ?
- Does it have quadrature outputs (very useful to generate the I and Q
channels) ?
- Which is the upper frequency limit ?

Three questions, but I cheated !
Thanks.

Alberto, I2PHD
Home Page http://www.qsl.net/i2phd

## 6. Re: [DSP:974] Re: Converting DOS to Win95

From: Jaakko Koivuniemi <jaakko@boojum.hut.fi>
Date: Sun, 3 May 1998 14:04:00 +0300 (EEST)

To: dsp@tapr.org
Message-ID: <199805031104.OAA05760@boojum.hut.fi>
Rendered body type: text/plain

> Do real programmers earn enough to afford M$ docs?
> (Of course, real programmers do the tools by themselves)

As a seasoned "Hello World!"-programmer I might not be the right person
to advice you in programming. After browsing your soundmodem code I even
bought a book on posix threads and so far have read the first 20 pages ;-)

> If so, I'm doing something wrongly 8)

You have been doing some really fine work for all of us.

--
Jaakko Koivuniemi
oh7bf

## 7. Re: [DSP:981] Re: DSP digest 337

From: Charles Brain <chbrain@dircon.co.uk>
Date: Sun, 03 May 1998 14:09:48 +0100
To: dsp@tapr.org
Message-ID: <354C6C9C.1BC75E37@dircon.co.uk>
Rendered body type: text/plain

I am not sure who this was directed at but......

Alberto Di Bene wrote:
>
> > From dsp@tapr.org Wed Apr 29 20:11:51 1998
> >
> > >I'm using a DDS (AD9850) local oscillator controlled by my PC, with the
> > >Rx, on 40 m.
> >
> A couple of questions (which could be answered just by looking at the data
> sheet, but I don't have it) :
>
> - Does it have an integrated DAC ?

Yes, 10 bit.

> - Does it have quadrature outputs (very useful to generate the I and Q
> channels) ?

No

> - Which is the upper frequency limit ?

About 1/3 of the clock frequency (max clock = 125 Mhz) so about
40 Mhz.

>
> Three questions, but I cheated !
> Thanks.
>
> Alberto, I2PHD
> Home Page  http://www.qsl.net/i2phd

- Charles G4GUO

## 8. Prueba

From: dpozaurc@bankinter.es
Date: Mon, 4 May 1998 11:18:55 +0200
To: dsp@tapr.org
Message-ID: <C12565FA.00331D3F.00@bankinter.es>
Rendered body type: text/plain

Prueba

Saludos

## 9. Re: [DSP:979] 9600 bps modem

From: Hasch@t-online.de (Juergen Hasch)
Date: Thu, 07 May 1998 22:21:58 +0200
To: dsp@tapr.org
Message-ID: <355217E5.74A79D49@t-online.de>
Rendered body type: text/plain

Hello Marcelo,

> I'm designing a modem like the PICPAR from DF9IC.
> The modem will use a PIC16C84-10 uP with a R-2R network as a DAC.
> My problem is how to code the output FIR filter.

The filter type is raised cosine, for the filter coefficients
Henning (the PICPAR author) uses, see below.
The filter is 8 taps long and uses 4 times oversampling.
This means you always take the last 8 data bits and compute 4
output values for each bit time.
Example:
The last 8 output bits are 10011010, then you will put the following
four values to the dac:
0+0+0+0+1+0+0+0
-0.0994+0.28128+0.89392+0.05451
-0.01822+0.61868+0.61868+0.05964
-0.01745+0.89392+0.28128+0.03240

You can increase the performance by precomputing some values
in tables.
I don't know the PIC processor, so don't ask me how to implement it.

> Does anyone have the PICPAR source code ?

The source code is not available.

Vy 73 de Juergen, DG1SCR

---

| clock time- | | 1. | 2. | 3. | 4. | oversampling |
|---|---|---|---|---|---|---|
| -4 | - | 0 | -0.00994 | -0.01822 | -0.01745 | |
| -3 | - | 0 | 0.03240 | 0.05964 | 0.05451 | |
| -2 | - | 0 | -0.08993 | -0.16356 | -0.15058 | |
| -1 | - | 0 | 0.28128 | 0.61868 | 0.89392 | |
| 0 | - | 1 | 0.89392 | 0.61868 | 0.28128 | |
| 1 | - | 0 | -0.15058 | -0.16356 | -0.08993 | |
| 2 | - | 0 | 0.05451 | 0.05964 | 0.03240 | |
| 3 | - | 0 | -0.01745 | -0.01822 | -0.00994 | |

## 10. Re: [DSP:979] 9600 bps modem

From: "Fernando M. I. Carreiro" <fmi@carreiro.com>
Date: Mon, 11 May 1998 03:39:47 +0100
To: <dsp@tapr.org>
Message-ID: <199805110417.EAA08056@tpone.telepac.pt>
Rendered body type: text/plain

> Hi,

Hello there,

I see you are Brazalian, if you prefer an answer in Portuguese, let me know and I will do so!

> I'm designing a modem like the PICPAR from DF9IC.

I am afraid i do not know of it, but I can help. Just give more details on it.

> The modem will use a PIC16C84-10 uP with a R-2R network as a DAC.

I have extensive knowledge and experience on PICs as well as ASK, FSK, mFSK, PSK, QAM modulation as well as other types of modulation, and can probably help you quite a lot.

As for the R-2R, you can also make use of shift register in a special way that will give you a Raised Cosign Output Filter. This will give you a filtered output and save you quite a few output pins on the PIC. You will need to oversample at x8, x12 or x16 and only use 2 pins: one for the CLOCK and one for the DATA.

> My problem is how to code the output FIR filter.

If properly designed, you will almost never need an output filter. Most DSP guys will say this is is not true, but trust me when I say that that is proably someone that sees the digital world in terms of analogue mathematics. There are some very good details of digital mathematics that simply does away with the output filter alltogether. And on a PIC that is highly recomended. But if you still wish to design FIR filters, I can help. Just give me a more detailed request.

For input filters for FSK demodulators, one can make use of Binary Square wave Majority Filters over a 12 of 16 Window and get excelent results, which is faster, more eficient and and very much more code compact than the traditional FIR filters. I will be more that willing to explain this concept to you directly at a later stage!

> Where could I find a software to design the filter ?

I have included some file attachments (on a seperate E-Mail) of such software, if you really want to design FIR or IIR filters, as well as some othe misc. tools.

> Does anyone have the PICPAR source code ?

Unforfunatly, I do not have such code. I am however working on a MODEM Chip using the PIC12Exxx series as well as equivelent code for Sound Cards for achieving 12000bps using the standard Audio Bandwidth using Mic/Spk Pins on Transeivers, so I will be more than willing to help you on your project. Just let me know what it is exactly that you need help on. You can be as specific as you want, but E-Mail me directly instead, as give higher priority to my personal E-Mail instead of Mailing Lists.

Regards,
Fernando (ZS6BLF currently changing over to a Portugal CallSign)

---
Fernando M. I. Carreiro
mailto://fmi@carreiro.com
http://www.fmi.carreiro.com

## 11. Re: [DSP:986] DSP digest 341

From: Alberto Di Bene <75800340@it.ibm.com>
Date: Mon, 11 May 1998 11:31:30 +0000
To: <dsp@tapr.org>
Message-ID: <5120010008878787000002L172*@MHS>
Rendered body type: text/plain

"Fernando M. I. Carreiro" <fmi@carreiro.com> on Message-ID:
<199805110417.EAA08056@tpone.telepac.pt>
wrote :

> For input filters for FSK demodulators, one can make use of Binary =
>Square wave Majority Filters over a 12 of 16 Window and get excelent =
>results, which is faster, more eficient and and very much more code =
>compact than the traditional FIR filters.

Could you please elaborate a little on this technique ? Thanks.

Alberto di Bene, I2PHD
Home page : http://www.qsl.net/i2phd

## 12. Binary/Square Wave Majority Filter!

From: "Fernando M. I. Carreiro" <fmi@carreiro.com>
Date: Mon, 11 May 1998 17:11:32 +0100
To: "Marcelo Puhl" <mark@plug-in.com.br>, <dsp@tapr.org>,
"Alberto Di Bene" <75800340@it.ibm.com>,
"Doug Braun" <dbraun@cadev6.intel.com>
Message-ID: <199805111730.RAA12819@tpone.telepac.pt>
Rendered body type: text/plain

In a recent response to the "9600 Modem" discusion, I mentioned that on a PIC one can make use of Majority FIlters, as they are much more simple to implement and more efficient than FIR filters. Judging from the reponse I received, it seems that I have struck a nerve. Please note that some clarification will be necessary before you all jump off the deep end.

The Majority filter is actually a binary implementation of a subset of a more complex set of mathematics know as the "Wavelets". In this case the "Haar" Wavelet to be more precise. I make extensive use of Wavelet Mathematics in my DSP work to achieve increadible results. Of couse it is not a case of "One fits All", as there are many different Wavelet Basis that can be used for different purposes. They can be used for filtering, interpolation, data compression, signal analysis, etc. Unlike FFT, which breaks the signal down into the Frequency domain and looses all Time domain information, Wavelets have the unique feature of been able to break up a signal into both Frequency and Time domain information. There is extensive information available on Wavelet mathematics spread all over the Internet. It is a reletively new, but a powerfull DSP technology.

As mentioned before, the Majority Filter, originates for the "Haar Wavelet" which allows the breakdown and analysis of Square Wave signals. It is in a fact a Binary implementation of the Low frequency component ("averaging") of the Haar Wavelet and is thus used for Low Pass Filtering of Binary Data or Square Wave signals. You may be wonderering how this can be effective on a analogue signal. Well in most cases such as FSK and PSK, the data is contained in the Frequency or Phase component of the analogue signal, and thus signal shape or amplitude is not required. In these cases a simple data slicer of the analogue signal is all that is needed to convert the signal into a square wave, while still maintaning Frequency and Phase information only. QAM is an example of where Majority Filter will NOT be appropriate and where the full wavelet technique will have to be used for DSP. One can however use Majority filters on the I and Q components of QAM.

A comercial example of a Majority Filter application is the Philips OM4031T

IC (Digital post-detection filter for FSK data receivers). You will find the complete spec. of the chip on the Philips Semiconductor Web Site. I recomend that you download that PDF spec and read it, as it explains the Majority filter. I will be most willing to answer any questions that you may still have after reading the spec. Please note that at first glance, Majority Filters, may seem to too simple and inappropriate for your problem, but trust me when I say that it is indeed very usefull. Some may argue that it has very poor frequency response, but thats because they really don't understand it's underlying concept and due to the fact that they may be thinking in Analogue terms instead of Digital terms. I could get into highly detailed explanation of this, but will keep it for a later date if it is necessary.

For those of you that requested specific details for a specific problem that you may have, I will be sending a seperate explanation. I will leave it up to you to decide if you wish to post it on to the Mailing List or not!

For those of you have a much more analogue problem to deal with, for which Majorit Filteris inapropriate I suggest reading up on Wavelett Mathematics. You may be very supprised. My suggestion for the first time user is the download copys of the following from the Internet:

"Building your own Wavelets at Home"
by "Wim Sweldens and Peter Schroder"
"Discrete Wavelet Transforms: Theory and Implementation"
by Tim Edwards
"Lectures on Wavelet Packet Algorithms"
by Mladen Victor Wickerhause
"Factoring Wavelet Transforms into Lifting Steps"
by Ingrid Daubechies and Wim Sweldens
"Wavelet Transforms that map Integers to Integers"
by A. R. Calderbank, Ingrid Daubechies, Wim Sweldens and Boon-Lock Yeo
"Adapted Waveform Analysis and Denoising"
by Ronald R Coifman and Fazal Majid
"Wavelet-Packet-Based multiple Access Communication"
by Rachel Learned, Hamid Krim, Bernhard Claus, Alan Willsky and Clem Karl

If you should not find them on the Internet (but they are there), I will be more than willing to send you a copy (i.e. a PDF copy).

Well, for now, good reading and thinking ....

---
Fernando M. I. Carreiro
mailto://fmi@carreiro.com
http://www.fmi.carreiro.com

## 13. A to D converters

From: kjh@goober.shoreline-studios.com (Ken Harris)
Date: Mon, 11 May 1998 11:12:01 -0700
To: dsp@tapr.org
Message-ID: <199805111812.LAA06908@goober.shoreline-studios.com>
Rendered body type: text/plain

I'm interested in sampling the IF of a radio with an
analog to digital converter and then doing FFT on it.

Is this practical for an amateur?

I'm wondering what the speed/precision/cost trade off is for
an A to D converter.

Here at work, we have a video ADC (14 MHz, 8 bits, 1 volt input),
so I know they can be fast, but is 8 bits enough?

---
Ken J. Harris  voice:  650/969-7896 x 15  fax: 650/969-7864
mailto:kjh@shoreline-studios.com  http://www.shoreline-studios.com
snail mail: 1804 N. Shoreline Blvd, Ste 240, Mountain View, CA 94043
_/)_/)_/)

## 14. Fernando

From: "David Coe" <mwchigh@erols.com>
Date: Mon, 11 May 1998 14:57:48 -0400
To: <dsp@tapr.org>
Message-ID: <01bd7d0e$b0b4e060$LocalHost@mwchigh>
Rendered body type: text/plain

OI, eu sou a unica da casa que falo portugues, sou uma intercambista e
nao entendo nada de computadores eu acho que vc se enganou quando escreveu
esse e-mail p/ ca, mas se vc quizer tento ajudar, OK?. Desculpas...
Danielle
-----Original Message-----

From: Fernando M. I. Carreiro <fmi@carreiro.com>
To: dsp@tapr.org <dsp@tapr.org>
Date: Sunday, May 10, 1998 11:50 PM
Subject: [DSP:986] Re: 9600 bps modem

> Hi,

Hello there,

I see you are Brazalian, if you prefer an answer in Portuguese, let me know and I will do so!

> I'm designing a modem like the PICPAR from DF9IC.

I am afraid i do not know of it, but I can help. Just give more details on it.

> The modem will use a PIC16C84-10 uP with a R-2R network as a DAC.

I have extensive knowledge and experience on PICs as well as ASK, FSK, mFSK, PSK, QAM modulation as well as other types of modulation, and can probably help you quite a lot.

As for the R-2R, you can also make use of shift register in a special way that will give you a Raised Cosign Output Filter. This will give you a filtered output and save you quite a few output pins on the PIC. You will need to oversample at x8, x12 or x16 and only use 2 pins: one for the CLOCK and one for the DATA.

> My problem is how to code the output FIR filter.

If properly designed, you will almost never need an output filter. Most DSP guys will say this is is not true, but trust me when I say that that is proably someone that sees the digital world in terms of analogue mathematics. There are some very good details of digital mathematics that simply does away with the output filter alltogether. And on a PIC that is highly recomended. But if you still wish to design FIR filters, I can help. Just give me a more detailed request.

For input filters for FSK demodulators, one can make use of Binary Square wave Majority Filters over a 12 of 16 Window and get excelent results, which is faster, more eficient and and very much more code compact than the traditional FIR filters. I will be more that willing to explain this concept to you directly at a later stage!

> Where could I find a software to design the filter ?

I have included some file attachments (on a seperate E-Mail) of such software, if you really want to design FIR or IIR filters, as well as some othe misc. tools.

> Does anyone have the PICPAR source code ?

Unforfunatly, I do not have such code. I am however working on a MODEM Chip using the PIC12Exxx series as well as equivelent code for Sound Cards for achieving 12000bps using the standard Audio Bandwidth using Mic/Spk Pins on Transeivers, so I will be more than willing to help you on your project. Just let me know what it is exactly that you need help on. You can be as specific as you want, but E-Mail me directly instead, as give higher priority to my personal E-Mail instead of Mailing Lists.

Regards,
Fernando (ZS6BLF currently changing over to a Portugal CallSign)

---
Fernando M. I. Carreiro
mailto://fmi@carreiro.com
http://www.fmi.carreiro.com

## 15. Re: [DSP:989] A to D converters

From: Tim Baggett <tim@aa5df.sps.mot.com>
Date: Mon, 11 May 1998 14:10:59 -0500 (CDT)
To: dsp@tapr.org
Message-ID: <199805111910.OAA03374@aa5df.dsp>
Rendered body type: text/plain

Hi Ken,

>
>       I'm interested in sampling the IF of a radio with an
> analog to digital converter and then doing FFT on it.
>
>       Is this practical for an amateur?


Depends on what you intend to do. Just an FFT? Sure.


>
>       I'm wondering what the speed/precision/cost trade off is for
> an A to D converter.


I recently built a high speed A/D interface for the Motorola 56303EVM.
It used the Burr Brown 12 bit, 800 Ksps, parallel data BB7810 and
BB7819 A/D. The eval board was $175, and only a few left in stock (the
device is an old device). Other glue logic, ribbon cables, etc. ~20.
56303EVM is somewhere in the $200 range.


>
>       Here at work, we have a video ADC (14 MHz, 8 bits, 1 volt input),
> so I know they can be fast, but is 8 bits enough?

Entirely depends on what you wish to do. For our application, the DSP
is tracking a narrowband signal that is on a satellite (LEO) downlink.
The doppler shift had a doppler bandwidth of 350 KHz, and we had to
detect the signal down to within 3 KHz for the main tracking equipment
to lock on.

Since the dignal can be within an IF bandwidth of 350 KHz, we sampled
at 800 Ksps. 12 bits provided plenty of SNR (could have done with 8).

The DSP would operate at 80 MIPS (80 MHz) and use the DMA to buffer up
1024 samples. The DSP would then perform a real 1024 point FFT that was
optimized (peform a 512 point complex FFT on the real data, and
recognize that the output is symetrical). Take the magnitude squared,
and perform a peak detect. From this we were able to detect the signal
peak to within 780 Hz, well within the 3KHz requirement. The DSP then
generates a tracking signal to help bring the tracking equipment within
3 KHz of the signal where it will automatically lock. At the same time
it is buffering up another batch of 1024 data points.

At 800 Ksps though, I doubt you can do much filtering or demodulation.
Yet. DSPs are continually improving along with everything else, just
like Pentiums (except you don't run Windoze on a DSP!)


Hope this helps,

73,
Tim


---
Tim Baggett                         Motorola Semiconductor Products
Email: tim@dsp.sps.mot.com          Digital Radio Systems / WSSG
Internal: RA5367@email              6501 William Cannon Dr West
Phone:    (512) 895-6718            Austin, Texas 78735-8598
FAX:      (512) 895-4665            http://www.mot.com/SPS/DSP
---


## 16. WARNING: message delayed at "ca.nortel.com"

From: nortel.postmaster@nortel.com
Date: Mon, 11 May 1998 19:08:13 -0400
To: dsp@tapr.org
Message-ID: <199805112312.SAA11508@tapr.org>
Rendered body type: text/plain

**********
**        NORTEL E-Mail Gateway Warning Message               **
**********

Delivery of your e-mail message to gabe@bnr.ca has been delayed at
a NORTEL E-Mail Gateway.

If it is not delivered within 5 hour(s), a failed
delivery report will be returned to you.

## 17. Re: [DSP:992] DSP digest 342

From: Itziar Martinez <itziar@bips00.bi.ehu.es>
Date: Tue, 12 May 1998 14:06:48 +0200 (CEST)
To: dsp@tapr.org
Message-ID: <Pine.LNX.3.96.980512140131.6773B-100000@bips.bi.ehu.es>
Rendered body type: text/plain

>
> > For input filters for FSK demodulators, one can make use of Binary =3D=
>
> >Square wave Majority Filters over a 12 of 16 Window and get excelent =3D=
>
> >results, which is faster, more eficient and and very much more code =3D=
>
> >compact than the traditional FIR filters.
>
> Could you please elaborate a little on this technique ? Thanks.
>
>       The Majority filter is actually a binary implementation of a subset of =
> a more complex set of mathematics know as the "Wavelets". In this case =
> the "Haar" Wavelet to be more precise. I make extensive use of Wavelet =
> Mathematics in my DSP work to achieve increadible results. Of couse it =
> is not a case of "One fits All", as there are many different Wavelet =
> Basis that can be used for different purposes. They can be used for =
> filtering, interpolation, data compression, signal analysis, etc. Unlike =
> FFT, which breaks the signal down into the Frequency domain and looses =
> all Time domain information, Wavelets have the unique feature of been =
> able to break up a signal into both Frequency and Time domain =
> information. There is extensive information available on Wavelet =
> mathematics spread all over the Internet. It is a reletively new, but a =
> powerfull DSP technology.
>
>       As mentioned before, the Majority Filter, originates for the "Haar =
> Wavelet" which allows the breakdown and analysis of Square Wave signals. =
> It is in a fact a Binary implementation of the Low frequency component =
> ("averaging") of the Haar Wavelet and is thus used for Low Pass =
> Filtering of Binary Data or Square Wave signals. You may be wonderering =
> how this can be effective on a analogue signal. Well in most cases such =
> as FSK and PSK, the data is contained in the Frequency or Phase =
> component of the analogue signal, and thus signal shape or amplitude is =
> not required. In these cases a simple data slicer of the analogue signal =
> is all that is needed to convert the signal into a square wave, while =
> still maintaning Frequency and Phase information only. QAM is an example =
> of where Majority Filter will NOT be appropriate and where the full =
> wavelet technique will have to be used for DSP. One can however use =
> Majority filters on the I and Q components of QAM.
>
>       A comercial example of a Majority Filter application is the Philips =
> OM4031T
> IC (Digital post-detection filter for FSK data receivers). You will find =
> the complete spec. of the chip on the Philips Semiconductor Web Site. I =
> recomend that you download that PDF spec and read it, as it explains the =
> Majority filter. I will be most willing to answer any questions that you =
> may still have after reading the spec. Please note that at first glance, =
> Majority Filters, may seem to too simple and inappropriate for your =
> problem, but trust me when I say that it is indeed very usefull. Some =
> may argue that it has very poor frequency response, but thats because =
> they really don't understand it's underlying concept and due to the fact =
> that they may be thinking in Analogue terms instead of Digital terms. I =
> could get into highly detailed explanation of this, but will keep it for =
> a later date if it is necessary.
>
>       For those of you that requested specific details for a specific problem =
> that you may have, I will be sending a seperate explanation. I will =
> leave it up to you to decide if you wish to post it on to the Mailing =
> List or not!
>
>       For those of you have a much more analogue problem to deal with, for =
> which Majorit Filteris inapropriate I suggest reading up on Wavelett =
> Mathematics. You may be very supprised. My suggestion for the first time =
> user is the download copys of the following from the Internet:
> Karl
>
>       If you should not find them on the Internet (but they are there), I =
> will be more than willing to send you a copy (i.e. a PDF copy).

>
>       Well, for now, good reading and thinking ....

I am a student in Telecommunication Engineering that is trying to
implement a modem in the DSP56002EVM and I have read your suggestion.
I have been looking on the Intenet about Wavelets and found such a lot of
stuff that I do not know where to start.
Could you give me a more concret item to search with, becuase Wavelets is
a very large subject.

## 18. WARNING: message delayed at "ca.nortel.com"

From: nortel.postmaster@nortel.com
Date: Tue, 12 May 1998 07:39:50 -0400
To: dsp@tapr.org
Message-ID: <199805121309.IAA24557@tapr.org>
Rendered body type: text/plain

```
****************************************************************
**        NORTEL E-Mail Gateway Warning Message               **
****************************************************************

Delivery of your e-mail message to gabe@bnr.ca has been delayed at
a NORTEL E-Mail Gateway.

If it is not delivered within 1 hour(s), a failed
delivery report will be returned to you.
```

## 19. Wavelets: Sugested Reading for the Novice.

From: "Fernando M. I. Carreiro" <fmi@carreiro.com>
Date: Tue, 12 May 1998 15:24:54 +0100
To: <dsp@tapr.org>
Message-ID: <199805121529.PAA28986@tpone.telepac.pt>
Rendered body type: text/plain

Here is a list of sugested reading for the novice who wishes to learn about Wavelets. You will find these on the Internet. You will have to a search as I no longer rember where I download it from. If for some reason you cannot find them, let me know and I will send you a copy via E-Mail or place it on my Web Site for downloading.

Here is the suggested list:

"Building your own Wavelets at Home"
by "Wim Sweldens and Peter Schroder"
"Discrete Wavelet Transforms: Theory and Implementation"
by Tim Edwards
"Lectures on Wavelet Packet Algorithms"
by Mladen Victor Wickerhause
"Factoring Wavelet Transforms into Lifting Steps"
by Ingrid Daubechies and Wim Sweldens
"Wavelet Transforms that map Integers to Integers"
by A. R. Calderbank, Ingrid Daubechies, Wim Sweldens and Boon-Lock Yeo
"Adapted Waveform Analysis and Denoising"
by Ronald R Coifman and Fazal Majid
"Wavelet-Packet-Based multiple Access Communication"
by Rachel Learned, Hamid Krim, Bernhard Claus, Alan Willsky and Clem Karl

## 20. Wavelets Documentation: Where to find it!

From: "Fernando M. I. Carreiro" <fmi@carreiro.com>
Date: Tue, 12 May 1998 17:22:44 +0100
To: " Stéphane Rivière " <sr@hol.fr>, <dsp@tapr.org>
Message-ID: <199805121724.RAA02023@tpone.telepac.pt>
Rendered body type: text/plain

The most popular Web Site to find Wavelet Information is at the Wavelet Digest at "http://www.wavelet.org". Another popular site is that of MathSoft's Wavelet Resources at "http://www.mathsoft.com/wavelets.html".

Here is my list of suggested reading and the respective locations: (Please note there may be better reading material at the above sites. It all depends on what it is you want use wavelets for!)

"Building your own Wavelets at Home"
by "Wim Sweldens and Peter Schroder"
"ftp://ftp.math.scarolina.edu/pub/imi_95/imi95_5.ps.gz"

"Discrete Wavelet Transforms: Theory and Implementation"
by Tim Edwards
"ftp://isl.stanford.edu/pub/godfrey/reports/wavelets/wave_paper/wave_paper.ps"

"Lectures on Wavelet Packet Algorithms"
by Mladen Victor Wickerhause
"http://wuarchive.wustl.edu/doc/techreports/wustl.edu/math/papers/inria300.ps.Z"

"Factoring Wavelet Transforms into Lifting Steps"
by Ingrid Daubechies and Wim Sweldens
"Can't remember. So I have placed a PDF copy of my own (tempory storage)"
"http://www.fmi.carreiro.com/wavelets/factor.zip"

"Wavelet Transforms that map Integers to Integers"
by A. R. Calderbank, Ingrid Daubechies, Wim Sweldens and Boon-Lock Yeo
"Can't remember. So I have placed a PDF copy of my own (tempory storage)"
"http://www.fmi.carreiro.com/wavelets/integer.zip"

"Adapted Waveform Analysis and Denoising"
by Ronald R Coifman and Fazal Majid
"ftp://pascal.math.yale.edu/pub/wavelets/papers/denoise.ps.gz"

"Wavelet-Packet-Based multiple Access Communication"
by Rachel Learned, Hamid Krim, Bernhard Claus, Alan Willsky and Clem Karl
"ftp://lids.mit.edu/pub/ssg/papers/LIDS-P-2253.PS.gz"

Please note that locations may of changed, so search the Wavelet Digest in case locations are different.

good reading ...

---
Fernando M. I. Carreiro
mailto:fmi@carreiro.com
http://www.fmi.carreiro.com

## 21. Windows FIR filter design for TI-DSK and AD EZ-Kit Lite.

From: Gerrit Polder <G.Polder@cpro.dlo.nl>
Date: Wed, 13 May 1998 13:53:23 +0200
To: dsp@tapr.org
Message-ID: <199805131147.NAA12977@tigris.cpro.dlo.nl>
Rendered body type: text/plain

You can find a quick and dirty program for FIR filter generation
for the TI-DSK and AD EZ-Kit Lite at:

http://www.qsl.net/pa3bya/index.html

Gerrit.

## 22. Intel NSP

From: Charles Brain <chbrain@dircon.co.uk>
Date: Thu, 14 May 1998 09:13:44 +0100
To: "dsp@tapr.org" <dsp@tapr.org>
Message-ID: <355AA7B8.62C595BA@dircon.co.uk>
Rendered body type: text/plain

Hi,

Does anyone have any experience of Intel NSP 4.0. If they have I
have a couple os simple questions. Please get in touch.

- Charles

--
Equipment for sale!!
http://www.chbrain.dircon.co.uk/gear.html
Everything must go !!!!

## 23. Literature on direct conversion receivers

From: "Johann Lochner" <lochner@firga.sun.ac.za>
Date: Mon, 18 May 1998 16:38:15 GMT+0200
To: dsp@tapr.org
Message-ID: <68891E1F91@firga.sun.ac.za>
Rendered body type: text/plain

I am investigating the possibilities of replacing analog circuitry in
conventional VHF/UHF receivers with digital equipment.  The
implementation of a direct conversion (no IF) receiver is of particular
interest.  The use of MATLAB based rapid prototyping tools for the

development of such a receiver will be evaluated.  I would appreciate
any directions to either paper or online references for more information
on this subject.

Johann Lochner

+-----------------------------------------------+
  JG Lochner  ESL, Universiteit van Stellenbosch
  e-pos:      lochner@firga.sun.ac.za
  webtuiste:  http://esl.ee.sun.ac.za/~lochner
+-----------------------------------------------+

## 24. Re: [DSP:999] Literature on direct conversion receivers

From: Rob Frohne <frohro@wwc.edu>
Date: Mon, 18 May 1998 10:12:12 -0700 (PDT)
To: dsp@tapr.org
Message-ID: <199805181712.KAA20422@adams.wwc.edu>
Rendered body type: text/plain

Hi Johann,

Check my article in April QST and its references.  Rick Campbell has
some more articles I didn't refer too you would probably find helpful.

73,

Rob
>
> I am investigating the possibilities of replacing analog circuitry in
> conventional VHF/UHF receivers with digital equipment.  The
> implementation of a direct conversion (no IF) receiver is of particular
> interest.  The use of MATLAB based rapid prototyping tools for the
> development of such a receiver will be evaluated.  I would appreciate
> any directions to either paper or online references for more information
> on this subject.
>
> Johann Lochner
>
> +-----------------------------------------------+
>   JG Lochner  ESL, Universiteit van Stellenbosch
>   e-pos:      lochner@firga.sun.ac.za
>   webtuiste:  http://esl.ee.sun.ac.za/~lochner
> +-----------------------------------------------+
>
>

## 25. Re: [DSP:999] Literature on direct conversion receivers

From: ChrisEilbeck <chris@yordas.demon.co.uk>
Date: Mon, 18 May 1998 20:38:44 +0000
To: dsp@tapr.org
Message-ID: <35609C54.72B261BF@yordas.demon.co.uk>
Rendered body type: text/plain

Johann Lochner wrote:
>
> I am investigating the possibilities of replacing analog circuitry in
> conventional VHF/UHF receivers with digital equipment.  The
> implementation of a direct conversion (no IF) receiver is of particular
> interest.  The use of MATLAB based rapid prototyping tools for the
> development of such a receiver will be evaluated.  I would appreciate
> any directions to either paper or online references for more information
> on this subject.

Someone posted this a while back on comp.dsp

Steven Nicoloso <nicoloso@taiyang.mprg.ee.vt.edu> wrote:

>KIERAN wrote:
>>
>> I'm starting a postgraduate project in digital software radio,
>> would anyone
>> point me towards revelent articles, web pages, books etc?

>KIERAN:

>May 1995 issue of IEEE Comm. Magazine was dedicated to the topic of
>software radios.

>websites that I've found:

>http://www.rl.af.mil:8001/Technology/Demos/MMITS/mmits.html
>http://www.rl.af.mil:8001/Technology/Demos/SPEAKEASY/1-speakeasy-title.html
>http://www.systems.gec.com/products/digital-radio.html
>http://www.steinbrecher.com/
>http://www.tns.lcs.mit.edu/SpectrumWare/home.html
>http://www.tns.lcs.mit.edu/~turletti/me.html

>Of course, none of these will actually describe in detail how to build
>a software radio, but they do deal with the topic.

>Hope this helps,

Been there, done that..

Check out http://www.cyberramp.net/~shima
for my paper on a digital radio, from the ground up...

Jim Shima
Advanced Signal Processing
Texas Instruments, Inc.
email:
shima@ti.com

Chris
--
Chris Eilbeck
mailto:chris@yordas.demon.co.uk

## 26. Re: Re: 9600 bps modem

From: "Marcelo Puhl" <mark@plug-in.com.br>
Date: Sun, 24 May 1998 22:53:44 -3
To: dsp@tapr.org
Message-ID: <199805250153.WAA30084@bigbox.plug-in.com.br>
Rendered body type: text/plain

> ------------------------------------------------------------------------
>
> Date: Thu, 07 May 1998 22:21:58 +0200
> From: Hasch@t-online.de (Juergen Hasch)
> To: dsp@tapr.org
> Subject: Re: 9600 bps modem
> Message-ID: <355217E5.74A79D49@t-online.de>
>
> Hello Marcelo,
>
> > I'm designing a modem like the PICPAR from DF9IC.
> > The modem will use a PIC16C84-10 uP with a R-2R network as a DAC.
> > My problem is how to code the output FIR filter.
>
> The filter type is raised cosine, for the filter coefficients
> Henning (the PICPAR author) uses, see below.
> The filter is 8 taps long and uses 4 times oversampling.
> This means you always take the last 8 data bits and compute 4
> output values for each bit time.
> Example:
> The last 8 output bits are 10011010, then you will put the following
> four values to the dac:
> 0+0+0+0+1+0+0+0
> -0.0994+0.28128+0.89392+0.05451
> -0.01822+0.61868+0.61868+0.05964
> -0.01745+0.89392+0.28128+0.03240
>
> You can increase the performance by precomputing some values
> in tables. I don't know the PIC processor, so don't ask me how to implement it.

No problem here. PICs are my ground.

> > Does anyone have the PICPAR source code ?
>

```
> The source code is not available.
>
> Vy 73 de Juergen, DG1SCR
>
> -----------
>   clock time-   1.  2.        3.        4.      oversampling
>    -4       -   0  -0.00994  -0.01822  -0.01745
>    -3       -   0   0.03240   0.05964   0.05451
>    -2       -   0  -0.08993  -0.16356  -0.15058
>    -1       -   0   0.28128   0.61868   0.89392
>     0       -   1   0.89392   0.61868   0.28128
>     1       -   0  -0.15058  -0.16356  -0.08993
>     2       -   0   0.05451   0.05964   0.03240
>     3       -   0  -0.01745  -0.01822  -0.00994
>
>
> ------------------------------

Dr Juergen,

I want to thank you for your info. That was exactly I was looking for.

My 9600 bps modem is working now.  Just an opamp and the PIC16C84.

It will be part of my SCC card project.

Best regards,

Marcelo Puhl  -- PY3SS @ PY3SS.RS.BRA.SA
                            mark@plug-in.com.br
---
73,
    Marcelo
```

## 27. test

```
From: "Steven R. Bible" <srbible@gate.net>
Date: Fri, 29 May 1998 12:26:15 -0400
To: dsp@tapr.org
Message-ID: <3.0.5.32.19980529122615.00906410@pop.gate.net>
Rendered body type: text/plain
```

```
The listserve says I am still subscribed.  But I haven't received anything
for a while.

This is only a test :-).


 - Steve
 (n7hpr@tapr.org)
```

## 28. 1998 ARRL and TAPR Digital Communications Conference

```
From: "Greg Jones, WD5IVD" <wd5ivd@tapr.org>
Date: Sun, 31 May 1998 14:10:14 -0500
To: "HF SIG  list   mailing"<hfsig@tapr.org>, " Spread Spectrum "<ss@tapr.org>,
        " TAPR/AMSAT DSP "<dsp@tapr.org>,
        "APRS SIG  list   mailing"<aprssig@tapr.org>,
        "NETSIG  list   mailing"<netsig@tapr.org>,
        "BBS SIG  list   mailing"<bbssig@tapr.org>,
        " tacgps "<tacgps@tapr.org>, aprsnews@tapr.org, mic-e@tapr.org,
        TAPR Regional Freq <regional_freq@tapr.org>
Message-ID: <v04003a01b1975b5f40bd@[207.8.125.50]>
Rendered body type: text/plain
```

```
1998 ARRL and TAPR Digital Communications Conference
September 25-27, 1998
Chicago, Illinois (minutes from O'Hare Airport)

Web: http://www.tapr.org/dcc

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It's that time again!  Mark your calendar and think about what to publish
for the upcoming 17th Annual ARRL and TAPR Digital Communications
Conference.  This is the third year in which the ARRL Digital
Communications Conference and TAPR Annual General Meeting are joined into
one conference!

The ARRL and TAPR Digital Communications Conference is an international
forum for radio amateurs in digital communications, networking, and related
```

technologies, who meet, publish their work, and present new ideas and techniques for discussion. Presenters and attendees have the opportunity to exchange ideas and learn about recent hardware and software advances, theories, experimental results, and practical applications. The Digital Communications Conference is not just for the digital expert, but for digitally-oriented amateurs at all levels of expertise.

The 1998 ARRL and TAPR Digital Communications Conference will be held September 25-27, 1998, in Chicago, Illinois. This year's conference location is the Holiday Inn Rolling Meadows, just minutes from O'Hare Airport.

Not only is the Digital Communications Conference technically stimulating, it is a weekend of fun for all who have more than a casual interest in any of the ham digital communications modes. This includes APRS operators, digital networks, software writers, modem designers, and digital satellite enthusiasts. The ARRL and TAPR Digital Communications Conference is for all levels of digital operators -- a must conference to attend to become active on a national level. Now, more than ever, amateur radio needs this great meeting of the minds because it is important that we demonstrate a continued need for the frequency allocations we have by pushing forward and documenting our achievements. The ARRL and TAPR Digital Communications Conference is one of the few ways to record our accomplishments and challenge each other to do more.

---

A Conference for the Beginner, Too

The conference is not just for the digital expert. This year's conference again provides multiple session tracks for beginning, intermediate, and advanced presentations on selected topics in digital communications. Topics will include APRS, satellite communications, TCP/IP, digital radio, Spread Spectrum, and many others. Come to the conference and hear these topics presented by the experts! Don't miss this opportunity to listen and talk to others in these areas.

---

Symposia and Seminars

In addition to the presentation of papers on Saturday, three symposia/seminars will be held. These sessions are provided to allow those with additional time and interest to make the most of the Digital Communications Conference. For those who may have interest in just one symposium or seminar, registration for the conference is not required to attend these activities. This allows maximum flexibility for those who may want to participate during the Digital Communications Conference, but do not have an entire weekend to devote to the event.

The Second APRS National Symposium will be held on Friday and will be moderated by Steve Dimse, K4HG (the developer of javAPRS). It will likely include many APRS software authors, such as Bob Bruninga, WB4APR (the father of APRS), Keith Sproul, WU2Z, Mark Sproul, KB2ICI (the developers of MacAPRS and WinAPRS), Brent Hildebrand, KH2Z (the developer of APRSPLUS), and other nationally-known APRS leaders. Join this group for the afternoon and evening for in-depth discussions and presentations on the current and future status of APRS. This is a unique opportunity to gain insight into this fast-growing digital aspect of amateur operations that combines computers, packet radio, and GPS (Global Positioning System).

Starting late Friday afternoon, a half-day seminar titled "Infrastructureless Technologies in Amateur Radio," presented by Don Lemke, WB9MJN, will cover the pros and cons of DDMA (directivity division multiple access, a proposed infrastructureless technigue) versus hubbed (cellular style) and other infrastructure dependant techniques, the basic problem of megabaud rate communications into the ham QTH, and some techniques for channel-area acquisition including full duplex/asynchronous versus simplex/synchronous radio/acquisition concepts. This seminar will start late enough on Friday afternoon to allow those flying that day to attend the seminar.

The Sunday morning seminar will be a combination of two different talks that will make one excellent seminar. The first presentation, by Lyle Johnson, WA7GXD, will focus on the upcoming RUDAK digital communications system scheduled to fly on the AMSAT Phase 3D satellite in the near future. Lyle will discuss features, systems design, integration, and experiments. The goal of the presentation is to zero in on the communications capabilities of RUDAK, the performance to be expected from the 153k6 PSK

system, the limitations and capacities of the DSP modems, user requirements for receiving RUDAK, requirements for transmitting to RUDAK, and how amateurs can work to make ground operations a reality once the satellite is in operation. Information on how to submit a proposal for experimental time on RUDAK will be presented. The second presentation will be by Tim Shepard, KD1KY, regarding "Packet Radio Networks with Millions or Billions of Stations." This talk will present concepts and materials that make you think about different possibilities of networking in the future. Both Lyle's and Tim's presentations focus on different aspects of future digital communications possibilities.

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Third Annual ARRL and TAPR DCC Student Papers Award

ARRL and TAPR especially welcome papers from full-time students to compete for the third annual student papers award. Two $500 travel awards may be given, one in each of the following categories: a) best technical/theory-oriented paper by a student, and b) best educational or community-oriented application paper by a student. The paper should relate directly to a wireless digital communication topic (see the guidelines for more information). Papers co-authored by educators or telecommunications professionals are also eligible for this award as long as a student is the first author. The deadline for receipt of finished student paper manuscript is June 20, 1998. Please note that this deadline is different from the general conference paper submission date. For full details and paper guidelines contact TAPR or browse to http://www.tapr.org/dcc.

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Call for Conference Proceeding Papers

Anyone interested in digital communications is invited to submit a paper for publication in the Conference Proceedings. Presentation at the conference is not required for publication. The primary purpose of the conference is to communicate ideas and techniques regarding digital communications. Papers written in an informal style are welcome, as well as those written to academic standards. If you know of someone who is doing great things with digital communications, be sure to tell them about this! Papers are due by August 15, 1998, and should be submitted to Maty Weinberg, ARRL, 225 Main Street, Newington, CT 06111, or via e-mail to lweinberg@arrl.org. The paper submission guidelines are available on-line (http://www.tapr.org/dcc).

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Local/International Co-Host

The 1998 ARRL and TAPR Digital Communications Conference will be co-hosted by Chicago Amateur Packet Radio Association (CAPRA). CAPRA is one of the oldest packet radio groups in the US. It focuses on education about amateur packet radio, coordination of joint efforts of hams interested in packet radio, and technical and equipment support for a sound packet network in the Chicago area. They have had high-speed packet networks operational since the mid-1980s. Visit the CAPRA Web site at http://www.imaxx.net/capra for more information.

PRUG (Packet Radio User Group of Japan) will be the first International co-host of the ARRL and TAPR Digital Communications Conference. The conference is proud to welcome PRUG as part of the conference. PRUG will be hosting an informal social Friday evening after the seminar and symposium are completed. Visit http://www.prug.or.jp for more information about the organization.

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What can you expect during the 1998 ARRL and TAPR Digital Communications Conference?

* A full day of papers, breakout sessions, and selected topics on Saturday for the beginner to advanced amateur digital enthusiast.

* Three seminars/symposia
  Friday (1 PM)
  - Second Annual APRS National Symposium, moderated by Steve Dimse, K4HG

  Friday (3 PM)
  - Infrastructure Technologies in Amateur Radio

conducted by Don Lemke, WB9MJN

Sunday (8:30 AM)
- RUDAK Future Operations and Experimentations
  by Lyle Johnson, WA7GXD
- Packet Radio Networks with Millions or Billions of Stations
  by Tim Shepard, KD1KY

* Third Annual Student Paper Awards.

* TAPR Membership Meeting

* A banquet with special guest speaker Steve Roberts, N4RVE, of Nomadic Research Labs. Creator of the Winnebiko and Behemoth high-tech recumbent bicycles. His current project is focused on Microship technology (http://www.microship.com/).

* SIGs (Special Interest Groups) get-togethers on Saturday, following the banquet

* Informal get-togethers throughout the weekend

* A facility that is perfect for this type of conference

* Informal engineering discussions/demonstration areas

* Motorola Museum located in the area.

* An event at which the most important new developments in amateur digital communications are announced

* Digital 'movers and shakers' from all over the world in attendance

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Conclusion

If you have attended a Digital Communications Conference in the past, remember how much fun it was discussing the latest developments into the wee hours! If you have never been to a Digital Communications Conference, then make your plans now to attend and find out how much fun they can be.

There are few activities where your participation can be so much fun and so important! You will be able to get together with colleagues from all over the world and bring each other up to date on your latest work. Experience all this and more for an unforgettable weekend of ham radio and digital communications. Make your travel and lodging arrangements now. We hope to see you at the ARRL and TAPR Digital Communications Conference, September 25-27!

Full information on the conference and hotel information can be obtained by contacting Tucson Amateur Packet Radio, 8987-309 E. Tanque Verde Road #337, Tucson, AZ 85749-9399, phone 940-383-0000, fax 940-566-2544, e-mail tapr@tapr.org, browse www.tapr.org/dcc.

Sincerely,

Steve Ford, WB8IMY, ARRL Conference Co-Chair
Greg Jones, WD5IVD, TAPR Conference Co-Chair
Steve Stroh, N8GNJ, Conference Manager
Mark J. Thompson, WB9QZB, Local Host Liaison
Carl Bergstedt, K9VXW, Local Host Liaison

Note: If you need conference handouts or flyers for ham club meetings, contact TAPR to get what you need!
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Hotel Information

Conference presentations, meetings, and seminars will be held at the Holiday Inn Rolling Meadows. Special DCC rooms rates are $85 per night. When making reservations with the hotel, be sure to indicate you are attending the ARRL and TAPR DCC in order to get the discount. It is highly recommended that you book your room prior to arriving. A block of 75 rooms is reserved until August 31, 1998. After the 75 rooms are booked, rooms will only be available in nearby hotels, so be sure to book your rooms early! The hotel provides transportation to and from O'Hare Airport. Please contact the hotel to arrange specific transportation needs.

Holiday Inn Rolling Meadows (conference hotel)
3405 Algonquin Rd
Rolling Meadows, IL 60008
Phone 847-259-5000, fax 847-259-0597

---

Registration

Contact the TAPR office by phone, fax, or e-mail (numbers and addresses are above) to register or for additional meeting information. MasterCard and VISA are accepted.

- Preregistration (before Sept 1): $42.00 *

- Late registration or at door: $47.00 *

* - Conference registration includes Conference Proceedings, Saturday sessions/meetings, and lunch.

- Saturday Evening Dinner (limited space): $20.00 **

** - Includes dinner, speaker, prize drawing

---

Seminar/symposia

Note: You do not have to be registered for the conference to attend one or more of the seminars/symposia.

- Friday, 1-8 PM, Second Annual APRS National Symposium (full day)

Registration: $25***

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- Friday 3-7 PM, Infrastructure Technologies in Amateur Radio, conducted by Don Lemke, WB9MJN

Registration: $15***

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Sunday 8:30-11 AM and 11:30 AM-2 PM, RUDAK Future Operations and Experimentations by Lyle Johnson, WA7GXD, and Packet Radio Networks with Millions or Billions of Stations by Tim Shepard, KD1KY

Registration $20***

*** Cost of seminar or symposium includes the cost of handout materials.

Contact TAPR to register for the DCC:

Tucson Amateur Packet Radio
8987-309 E. Tanque Verde Road #337
Tucson, AZ 85749-9399.
phone 940-383-0000, fax 940-566-2544
e-mail tapr@tapr.org, browse http://www.tapr.org

# June 1998

Original source file: dsp.9806
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/dspsig/mail_archive/dsp.9806

## 1. [DSP:1003] test -Reply

From: Bruce Taylor <TAYLORBC@durban.gov.za>
Date: Mon, 1 Jun 1998 07:29:41 +0200
To: dsp@tapr.org
Message-ID: <98Jun1.072319gmt+0200.28675@city.durban.gov.za>
Rendered body type: text/plain

ME TO
THOUGHT IT WAS THE LINK TO AFRICA
EVEN F6FBB RATHER QUITE
REGARDS
BRUCE TAYLOR DURBAN SOUTH AFRICA

>>> "Steven R. Bible" <srbible@gate.net> 29/May/1998 06:30pm >>>
The listserve says I am still subscribed.  But I haven't received anything
for a while.

This is only a test :-).

 - Steve
 (n7hpr@tapr.org)

## 2. dsp literature

From: Felipe <cinetica@cab.cnea.edu.ar>
Date: Fri, 5 Jun 1998 12:58:15 -0300
To: dsp@tapr.org
Message-ID: <199806051558.MAA10461@cab.cnea.edu.ar>
Rendered body type: text/plain

Hi all!!

 somebody can suggest me some book about DSP applications and or same web
where there are information about DSP .

 thanks at all

 Felipe Pasquevich

## 3. [DSP:1006] dsp literature

From: "S. Neil Xenias" <104204.1001@compuserve.com>
Date: Fri, 5 Jun 1998 14:22:49 -0400
To: "INTERNET:dsp@tapr.org" <dsp@tapr.org>
Message-ID: <199806051423_MC2-3F54-5F8E@compuserve.com>
Rendered body type: text/plain

Hello Gang...

I've been lurking for quite a while, but, man, have I gotten a GREAT DSP
education!!  Wondering what's going on with the enclosure project.  That's
gonna be very cool!  PS - I think I've got PSK31 working, but haven't
demodulated anything.....I know you guys are testing/running it on the low
bands but I lost the post with the frequencies.   Cheers,

*** Neil Xenias, N4CTB
Chesterfield, VA
<104204.1001@compuserve.com>

## 4. Re: [DSP:1006] dsp literature

From: Tim Baggett <tim@dsp.sps.mot.com>
Date: Fri, 5 Jun 1998 13:59:31 -0500 (CDT)
To: dsp@tapr.org
Message-ID: <9806051856.AA20171@dsp.sps.mot.com>
Rendered body type: text/plain

Hi Felipe,

>  somebody can suggest me some book about DSP applications and or same web
> where there are information about DSP .

For general DSP, I would suggest the book by Oppenheim and Schaffer.  I

believe it is titled 'Discrete Time Signal Processing' or something
very similar. The latest edition is expected out this Fall or late
summer and will contain a lot of new stuff.

For practical application of DSP in commmunication systems (digital and
analog), I would highly recommend the book by Marvin Frerking and was
published by Van Nostrand Reinhold Publishing. It is out of print, but
occasionally you can still find one which can be ordered. I don't have
the title with me right now unfortuantly. I believe it was published in
1994.

73,
Tim


---
Tim Baggett                          Motorola Semiconductor Products
Email: tim@dsp.sps.mot.com           Digital Radio Systems / WSSG
Internal: RA5367@email               6501 William Cannon Dr West
Phone:    (512) 895-6718             Austin, Texas 78735-8598
FAX:      (512) 895-4665             http://www.mot.com/SPS/DSP
---


## 5. Re: [DSP:1006] dsp literature

From: Alfredo Weltert <alfredo.weltert@galactica.it>
Date: Mon, 08 Jun 1998 11:06:49 +0200
To: dsp@tapr.org
Message-ID: <357BA9A9.8B4198D7@galactica.it>
Rendered body type: text/plain

A good and new textbook on DSP is:

Mitra
Digital Signal Processing- A Computer-Based Approach
McGraw-Hill 1997

This book has many interesting sections as:

Tunable Filters
Multirate Filtering
Audio Effects

with Matlab programs.

AFW

I you are searching a textbook with the

dsp@tapr.org wrote:

> Hi all!!
>
> somebody can suggest me some book about DSP applications and or same web
> where there are information about DSP .
>
> thanks at all
>
> Felipe Pasquevich

## 6. Dorothy Update

From: "Greg Jones, WD5IVD" <wd5ivd@tapr.org>
Date: Mon, 8 Jun 1998 10:37:20 -0500
To: "HF SIG list mailing"<hfsig@tapr.org>, " Spread Spectrum "<ss@tapr.org>,
" TAPR/AMSAT DSP "<dsp@tapr.org>,
"APRS SIG list mailing"<aprssig@tapr.org>,
"NETSIG list mailing"<netsig@tapr.org>,
"BBS SIG list mailing"<bbssig@tapr.org>,
" tacgps "<tacgps@tapr.org>, aprsnews@tapr.org, mic-e@tapr.org,
TAPR Regional Freq <regional_freq@tapr.org>
Message-ID: <v04003a0cb1a1b453317a@[207.43.172.66]>
Rendered body type: text/plain

For those who want to know.
----

Dorothy was released from the hospital last Friday afternoon and has been
resting at the house (TAPR Office ;-) since then.  The surgery went very
well and there appears to be no complications, except that she doesn't like
the really long scar on her belly.

We (Bill Jones and I) have told Dorothy she cannot step one foot into the
TAPR office until next week sometime.  Thus, expect kits and orders to
start getting out the door in another 7-10 days.  There is a bit of a pile
being generated by this down time, so it will probably be a week or so
after we open back up that we get caught up on everything.

Dorothy wants to thank everyone that thought of her during this ordeal and
she looks forward to getting back into the swing of things.

Cheers - Greg Jones, WD5IVD

-----
Greg Jones, WD5IVD                Austin, Texas
wd5ivd@tapr.org      http://www.tapr.org/~wd5ivd


Real World, The n.:
        5. Anywhere outside a university.  "Poor fellow, he's left UT
Austin and gone into the real world."

## 7. VMSK/2 ???

From: "Marcelo Puhl" <mark@plug-in.com.br>
Date: Thu, 11 Jun 1998 21:24:30 -3
To: hfsig@tapr.org
Cc: dsp@tapr.org
Message-ID: <199806120023.VAA03491@bigbox.plug-in.com.br>
Rendered body type: text/plain

Hello,

Anyone researching the VMSK/2 modulation for HF Packet ?

---
Marcelo Puhl
mark@plug-in.com.br

## 8. VMSK modulation

From: "Marcelo Puhl" <mark@plug-in.com.br>
Date: Wed, 17 Jun 1998 23:40:03 -3
To: dsp@tapr.org
Message-ID: <199806180239.XAA14233@bigbox.plug-in.com.br>
Rendered body type: text/plain

Please take a look at :

ftp://members.aol.com/pegasusdat

-------------------------------------------

 WELCOME TO PEGASUS DATA SYSTEMS INFO BULLETIN BOARD

Pegasus Data Systems has perfected the Variable Phase Shift Keying method of
modulation, known as VPSK, and the newer Very Minimum Shift Keying methods (
VMSK and VMSK/2 ).

These patented modulation methods reduce the RF bandwidth required for digital
radio transmission to as little as 1/30 that required by QPSK or BPSK. They do
so without losing signal power the way other methods do. The measured S/N
ratios are less than those for QPSK.

These are the only modulation methods that do not lose signal power with
increasing bandwidth efficiency in bits/sec./Hz.

If they are compared to QAM, the results are fantastic. 15/1 compression
(bits/sec/Hz) is being transmitted using VPSK with a CNR of 14 dB. QAM, with
the same compression ( an impossibility), would require 56 dB CNR. 10VPSK is
the equivalent of 40,320QAM.

This is an obvious impossibility, since no one has ever exceeded 256QAM. VMSK
is the only high bandwidth compression modulation method that can be used on
VSATs. If the same BW efficiency could be achieved using QAM, the CNR required
would be over 95 dB. Using the newest method, VMSK/2, the C/N for a 10-6 BER is
about 5.5 dB. Only MFSK can achieve a value that low. MFSK spreads the
bandwidth however while VMSK/2 compresses it.

The method does not require a coherent carrier, hence it can hold up in a Doppler or frequency offset environment ( mobile or VSAT ). VMSK/2 works best at bandwidth efficiencies between 16 and 30 bits/sec./Hz.--- Far beyond the capabilities of any other method.

VMSK/2 is being considered for the new IS136 Digital Cellular Standard. The patents have been sold to a California Venture Capital group.

We have posted some technical papers that explain VPSK and VMSK in our directory. These are reprints of papers given before the IEEE, published in magazines, or given at Wireless and RF Expos. They explain every detail of VPSK and VMSK. We hope you will find them informative.

Under the VPSK directory: "ADVANTAGES" explains the advantages of VPSK over MPSK and QAM for high compression ratios (bits/sec/Hz). It is about 12 pages long, with graphs, equations, etc. No need to use HTML, it will print directly in Word Perfect. This paper was presented at IEEE Wescon, 95.

"15ToOne" explains how VPSK achieves 15.3 bits/sec per Hz at 13 dB CNR for 10-6 BER. This paper was prepared in cooperation with Dr. Alex Haimovich of NJIT for presentation to the IEEE.

VMSK/2 is presently operating at 26.6 bits per sec. per Hz. It has been demonstrated as high as 50 b/s/Hz. A major advantage is that it does not require the restoration of a coherent carrier. The paper VMSK/2 has been prepared jointly by Dr. Koukourlis, Dr. Sahalos, J. Pliatsikas and H.R. Walker. This is the latest paper to be prepared. It will appear in the May 98 issue of Applied Microwaves and Wireless Magazine.

You will find extensive references at the end of each paper. The July/August Issue of Applied Microwaves and Wireless Magazine contains a paper by H.R.Walker on calculating the Post-detection SNR from the Pre-detection CNR. Please contact us for further information regarding demonstrations and licensing.

---
73,
    Marcelo

## 9. Re: [DSP:1012] VMSK modulation

From: kf4tvj2@juno.com (scott b hamm)
Date: Thu, 18 Jun 1998 07:43:12 EDT
To: dsp@tapr.org
Cc: dsp@tapr.org
Message-ID: <19980618.074536.3822.0.kf4tvj2@juno.com>
Rendered body type: text/plain

take my name and address of your list.
some one else  signed me up.

_____
You don't need to buy Internet access to use free Internet e-mail.
Get completely free e-mail from Juno at http://www.juno.com
Or call Juno at (800) 654-JUNO [654-5866]

## 10. Re: [DSP:1012] VMSK modulation

From: RLANIER@mailb.harris.com (RLANIER)
Date: Thu, 18 Jun 1998 09:35:07 -0400
To: dsp@tapr.org
Message-ID: <001940B4.1702@mailb.harris.com>
Rendered body type: text/plain

If anyone knows how to convert these Wordperfect files to HTML or PDF,
     please let me know!

     Tony  KE4ATO

_____ Reply Separator _____
Subject: [DSP:1012] VMSK modulation
Author:  dsp@tapr.org at smtp
Date:    6/17/98 9:42 PM

Please take a look at :

ftp://members.aol.com/pegasusdat

...snip

We have posted some technical papers that explain VPSK and VMSK in our directory. These are reprints of papers given before the IEEE, published in magazines, or given at Wireless and RF Expos. They explain every detail of VPSK and VMSK. We hope you will find them informative.

Under the VPSK directory: "ADVANTAGES" explains the advantages of VPSK over MPSK and QAM for high compression ratios (bits/sec/Hz). It is about 12 pages long, with graphs, equations, etc. No need to use HTML, it will print directly in Word Perfect. This paper was presented at IEEE Wescon, 95.

"15ToOne" explains how VPSK achieves 15.3 bits/sec per Hz at 13 dB CNR for 10-6 BER. This paper was prepared in cooperation with Dr. Alex Haimovich of NJIT for presentation to the IEEE.

VMSK/2 is presently operating at 26.6 bits per sec. per Hz. It has been demonstrated as high as 50 b/s/Hz. A major advantage is that it does not require the restoration of a coherent carrier. The paper VMSK/2 has been prepared jointly by Dr. Koukourlis, Dr. Sahalos, J. Pliatsikas and H.R. Walker. This is the latest paper to be prepared. It will appear in the May 98 issue of Applied Microwaves and Wireless Magazine.

You will find extensive references at the end of each paper. The July/August Issue of Applied Microwaves and Wireless Magazine contains a paper by H.R.Walker on calculating the Post-detection SNR from the Pre-detection CNR. Please contact us for further information regarding demonstrations and licensing.

---
73,
    Marcelo

# July 1998

Original source file: dsp.9807
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/dspsig/mail_archive/dsp.9807

## 1. Ignore Test message

From: Brahim HAMADICHAREF <brahim@rome.cis.plym.ac.uk>
Date: Thu, 02 Jul 1998 13:11:50 +0100
To: dsp@tapr.org
Message-ID: <359B7906.164AAE08@cis.plym.ac.uk>
Rendered body type: text/plain

Please ignore.
Just checking ...

--
**********************************************************************
* Brahim Hamadicharef PhD student - Centre for Intelligent        *
* Systems, University of Plymouth, Drake Circus, Plymouth PL4 8AA *
* Devon,England     URL: http://www.cis.plym.ac.uk/cis/brahim     *
* Tel: 44-1752-233512 / Fax: 44-1752-232583                       *
**********************************************************************

## 2. DSP56002EVM for audio processing and sound synthesis.

From: Brahim HAMADICHAREF <brahim@rome.cis.plym.ac.uk>
Date: Thu, 02 Jul 1998 14:33:50 +0100
To: dsp-tapr <dsp@tapr.org>
Message-ID: <359B8C3E.3BB4771B@cis.plym.ac.uk>
Rendered body type: text/plain

I'm looking to dicuss with people working with the DSP56002EVM for
audio processing and sound synthesis.

Anybody here ?

--
**********************************************************************
* Brahim Hamadicharef PhD student - Centre for Intelligent        *
* Systems, University of Plymouth, Drake Circus, Plymouth PL4 8AA *
* Devon,England     URL: http://www.cis.plym.ac.uk/cis/brahim     *
* Tel: 44-1752-233512 / Fax: 44-1752-232583                       *
**********************************************************************

## 3. Re: [DSP:1016] DSP56002EVM for audio processing and sound synthesis.

From: Tim Baggett <tim@dsp.sps.mot.com>
Date: Thu, 2 Jul 1998 09:25:49 -0500 (CDT)
To: dsp@tapr.org
Message-ID: <9807021419.AA22949@dsp.sps.mot.com>
Rendered body type: text/plain

> I'm looking to dicuss with people working with the DSP56002EVM for
> audio processing and sound synthesis.

What kind of interesting things are you doing in the area of audio processing?

> Anybody here ?

Yeah, we're here...just been real quiet lately. What has everyone been up to?

---
Tim Baggett                          Motorola Semiconductor Products
Email: tim@dsp.sps.mot.com           Digital Radio Systems / WSSG
Internal: RA5367@email               6501 William Cannon Dr West
Phone:    (512) 895-6718             Austin, Texas 78735-8598
FAX:      (512) 895-4665             http://www.mot.com/SPS/DSP
---

## 4. Re: [DSP:1017] Re: DSP56002EVM for audio processing and sound synthesis.

From: Thomas Sailer <sailer@ife.ee.ethz.ch>
Date: Thu, 02 Jul 1998 18:53:10 +0200
To: dsp@tapr.org
Message-ID: <359BBAF6.13FA5D1@ife.ee.ethz.ch>
Rendered body type: text/plain

Tim Baggett wrote:

> Yeah, we're here...just been real quiet lately. What has everyone been up to?

Trying to download Motorola 56300 manuals from the Mot http server
at the incredible rate of 30 bytes/hour :-)

Tom

## 5. Re: [DSP:1017] Re: DSP56002EVM for audio processing and sound synthesis.

From: Brahim HAMADICHAREF <brahim@rome.cis.plym.ac.uk>
Date: Thu, 02 Jul 1998 18:55:30 +0100
To: dsp@tapr.org
Message-ID: <359BC992.EEFD2BC9@cis.plym.ac.uk>
Rendered body type: text/plain

Tim Baggett wrote:
> > I'm looking to dicuss with people working with the DSP56002EVM for
> > audio processing and sound synthesis.
>
> What kind of interesting things are you doing in the area of audio processing?

Waveguide modeling. pluck string and a flute instruments.

See http://www.cis.plym.ac.uk/cis/brahim/project/
and http://www.cis.plym.ac.uk/cis/brahim/project/AppendixCUK.html

--
**********************************************************************
* Brahim Hamadicharef PhD student - Centre for Intelligent           *
* Systems, University of Plymouth, Drake Circus, Plymouth PL4 8AA *
* Devon,England     URL: http://www.cis.plym.ac.uk/cis/brahim     *
* Tel: 44-1752-233512 / Fax: 44-1752-232583                        *
**********************************************************************

## 6. Re: [DSP:1018] Re: DSP56002EVM for audio processing and sound synthesis.

From: Jacob W Janovetz <janovetz@ews.uiuc.edu>
Date: Thu, 2 Jul 1998 12:55:44 -0500 (CDT)
To: dsp@tapr.org
Message-ID: <199807021755.MAA01981@eesn18.ews.uiuc.edu>
Rendered body type: text/plain

> Tim Baggett wrote:
>
> > Yeah, we're here...just been real quiet lately. What has everyone been up to?
>
> Trying to download Motorola 56300 manuals from the Mot http server
> at the incredible rate of 30 bytes/hour :-)

It's faster if you just call the sales office and have them ship it
to you.

   Cheers,
   Jake  (who STILL wants Motorola to spend the 30 minutes to recompile
          their damn assembler for Linux)

--
   janovetz@uiuc.edu    | Once you have flown, you will walk the earth with
 University of Illinois | your eyes turned skyward, for there you have been,
                        | there you long to return.     -- da Vinci
        PP-ASEL         | http://www.ews.uiuc.edu/~janovetz/index.html

## 7. Re: [DSP:1018] Re: DSP56002EVM for audio processing and sound synthesis.

From: Tim Baggett <tim@dsp.sps.mot.com>
Date: Thu, 2 Jul 1998 13:26:27 -0500 (CDT)
To: dsp@tapr.org
Message-ID: <9807021819.AA26538@dsp.sps.mot.com>
Rendered body type: text/plain

> Trying to download Motorola 56300 manuals from the Mot http server
> at the incredible rate of 30 bytes/hour :-)

Gads, and I thought it was slow internally!! If you are really wanting
the manuals, you may wish to  call (800) 441-2447 (US, Europe) and have

them send it to you. It would be bound, in a convenient size, and
wouldn't cost you a ream of paper. But then again you wouldn't be able
to search it. You can also ask for the documentation on CD. The
documentation CD order number is CDDSP3/D (may be updated to
CDDSP4/D).

Tim



---------------------------------------------------------------------
Tim Baggett                         Motorola Semiconductor Products
Email: tim@dsp.sps.mot.com          Digital Radio Systems / WSSG
Internal: RA5367@email              6501 William Cannon Dr West
Phone:    (512) 895-6718            Austin, Texas 78735-8598
FAX:      (512) 895-4665            http://www.mot.com/SPS/DSP
---------------------------------------------------------------------


## 8. Troubles with EVM

From: Servicio de Equipamiento <equipa@cec.caan.es>
Date: Fri, 03 Jul 1998 08:33:35 +0200
To: dsp@tapr.org
Message-ID: <3.0.5.32.19980703083335.0079e4a0@correo.cec.caan.es>
Rendered body type: text/plain

Dear friends,
After the unboxed EVM drops to the floor I cannot use it as usual on HF
because, after a correct software load via OnCE and runned all works as
usual but when I try to transmit (on PSK31, MT63, ...) starts for no more
than 2 seconds but with a strange noise mixed with the usual modulation
sound and then stops the transmission (in some cases) or continues the ptt
activated and is not possible to cut the transmission via the pc software
but resetting the board.
If the transmission stops at the 1-2 seconds period then the tunning
indicator does not works and also is not possible to try another transmission.

G3NDO told me about a possible ground fault between the in and out plugs
but it's ok.

And, finally, there's no apparently damage to the board or broken path on
the circuitry.

Any comment?

Thanks in advance.

Jose I. Baena, EA7HBZ.


---------------------------------------
CEC/JA/DGCEE - Servicio de Equipamiento
Ed. Torretriana, pl. 3, anillo derecho
Isla de la Cartuja - 41071 Sevilla
Tel: 95 446 45 56
url: http://www.cec.caan.es/dgcee
---------------------------------------


## 9. Re: [DSP:1020] Re: DSP56002EVM for audio processing and sound synthesis.

From: Tomi Manninen <tomannin@trshp.ntc.nokia.com>
Date: Fri, 3 Jul 1998 10:50:57 +0300 (EETDST)
To: dsp@tapr.org
Message-ID: <Pine.HPP.3.95.980703105021.24438A-100000@jas.trs.ntc.nokia.com>
Rendered body type: text/plain

On Thu, 2 Jul 1998, Jacob W Janovetz wrote:

>    Jake  (who STILL wants Motorola to spend the 30 minutes to recompile
>           their damn assembler for Linux)

Me too!

--
---Tomi Manninen   /   Tomi.Manninen@hut.fi   /   OH2BNS @ OH2RBI.FIN.EU---

## 10. Re: [DSP:1022] Troubles with EVM

From: forrerj@peak.org (Johan Forrer)
Date: Fri, 03 Jul 1998 09:47:27 -0800
To: dsp@tapr.org
Message-ID: <199807031649.JAA21013@peak.org>
Rendered body type: text/plain

Jose,

Some of the fragile parts on the board that might be affected are the two
crystals.
Its sounds as if the 4 MHz crystal is OK as your processor and OnCE seems to
work. The CODEC crystal, however might not be ... from what you describe.

You may want to hook up a scope to one of that crystal's legs or the clock
output .... while watching the scope, gently tap the crystal with your finger
to see it it goes into wild oscillation or behaves erratic.

Otherwise, inspect the area closely where you seen physical damage. Use a
high power
maginfier and look at each and every surface-mounted part for possible cracks or
signs of speraration. Those can all be repaired if needed

Hope this helps -- Good luck!

--Johan

## 11. Re: [DSP:1022] Troubles with EVM

From: "L. J. Shepherd" <ljs@west.net>
Date: Fri, 03 Jul 1998 11:38:57 -0700
To: dsp@tapr.org
Message-ID: <3.0.2.32.19980703113857.006a0e3c@west.net>
Rendered body type: text/plain

Jose,

Try to run PSK31 or MT63 with the EVM audio output to your transmitter
disconnected, but with PTT connected. Go into transmit mode, if PSK
continues to run more than 2 seconds and there is no strange noise, your
problem may be related to RF from your transmitter interfering with the
EVM, due to broken ground connections from cable shielding, broken ground
connection on the connector or trace on the EVM pcb. Is your EVM installed
in a shielded enclosure ?

Muy bueno suerte con su problema.....73,  JIM  K6OYY

At 01:36 AM 7/3/98 -0500, you wrote:
>Dear friends,
>After the unboxed EVM drops to the floor I cannot use it as usual on HF
>because, after a correct software load via OnCE and runned all works as
>usual but when I try to transmit (on PSK31, MT63, ...) starts for no more
>than 2 seconds but with a strange noise mixed with the usual modulation
>sound and then stops the transmission (in some cases) or continues the ptt
>activated and is not possible to cut the transmission via the pc software
>but resetting the board.
>If the transmission stops at the 1-2 seconds period then the tunning
>indicator does not works and also is not possible to try another
transmission.
>
>G3NDO told me about a possible ground fault between the in and out plugs
>but it's ok.
>
>And, finally, there's no apparently damage to the board or broken path on
>the circuitry.
>
>Any comment?
>
>Thanks in advance.
>
>Jose I. Baena, EA7HBZ.
>
>---------------------------------------
>CEC/JA/DGCEE - Servicio de Equipamiento
>Ed. Torretriana, pl. 3, anillo derecho
>Isla de la Cartuja - 41071 Sevilla
>Tel: 95 446 45 56
>url: http://www.cec.caan.es/dgcee
>---------------------------------------
>
>

## 12. In search of the EVM56002

From: n1obu@worldnet.att.net (Douglas M. Pervine)
Date: Sat, 04 Jul 1998 21:37:46 GMT
To: dsp@tapr.org
Message-ID: <35a29fe9.2757495@mailhost.worldnet.att.net>
Rendered body type: text/plain

I have been looking for a place to buy the EVM56002.  Can anyone
help?  I'd greatly appreciate it..

--73 de N1OBU [44.8.0.136]
n1obu@worldnet.att.net

## 13. Re: [DSP:1026] In search of the EVM56002

From: "Steven R. Bible" <srbible@gate.net>
Date: Sat, 04 Jul 1998 17:17:12 -0400
To: dsp@tapr.org
Message-ID: <3.0.5.32.19980704171712.00861dd0@pop.gate.net>
Rendered body type: text/plain

At 04:42 PM 7/4/98 -0500, you wrote:
>I have been looking for a place to buy the EVM56002.  Can anyone
>help?  I'd greatly appreciate it..


I bought mine from Newark several years ago.  You can now order online with
Newark at http://www.newark.com.

I have also seen listed the Wyle web page the EVM.

Do not pay anymore that $149.00 for it.

The part number is DSP56002EVM.

Let us know how you make out.


 - Steve
 (n7hpr@tapr.org)

## 14. Re: [DSP:1027] Re: In search of the EVM56002

From: forrerj@peak.org (Johan Forrer)
Date: Sat, 04 Jul 1998 18:28:09 -0800
To: dsp@tapr.org
Message-ID: <199807050130.SAA27726@peak.org>
Rendered body type: text/plain

Douglas,

>At 04:42 PM 7/4/98 -0500, you wrote:
>>I have been looking for a place to buy the EVM56002.  Can anyone
>>help?  I'd greatly appreciate it..
>
>
>I bought mine from Newark several years ago.  You can now order online with
>Newark at http://www.newark.com.
>
>I have also seen listed the Wyle web page the EVM.
>
>Do not pay anymore that $149.00 for it.
>
>The part number is DSP56002EVM.
>
>Let us know how you make out.
>
>
> - Steve
> (n7hpr@tapr.org)
>
>
>

As Steve suggested, don't pay more than $149. Last time I asked Newark for a
price they quoted me something like $250 which I argued was not correct.
They did not budge.

You can also try Future/Active at 1-800-709-3040 and talk to Kay Chase.
I have ordered several DSP56002EVM's at $149 from them and never had a
problem. If you find them out of stock,  try another dealer.

Good luck!

--Johan, KC7WW

## 15. Re: [DSP:1028] DSP digest 362

From: John Coppens <jcoppens@satlink.com>
Date: Sun, 05 Jul 1998 12:25:43 -0300
To: dsp@tapr.org
Message-ID: <359F9AF7.1AC985EE@satlink.com>
Rendered body type: text/plain

Hi!

   I've been struggling to get the EVM. Try www.arrowamericas.com,
they list the EVM at $149 and as available.

   I also have received pricing ranging from 149 to 283$... I was
so shocked I asked Motorola about it, and they told me the suggested
retail price was $149.

   John

> Date: Sat, 04 Jul 1998 21:37:46 GMT
> From: n1obu@worldnet.att.net (Douglas M. Pervine)
> To: dsp@tapr.org
> Subject: In search of the EVM56002
> Message-ID: <35a29fe9.2757495@mailhost.worldnet.att.net>
>
> I have been looking for a place to buy the EVM56002.  Can anyone
> help?  I'd greatly appreciate it..
>
> --73 de N1OBU [44.8.0.136]
> n1obu@worldnet.att.net
>

--


---------------------------------------------------------------------
 Ing. John Coppens                    e-mail: jcoppens@amsat.org
 Faculty of Engineering               ip    : 44.153.80.21
 Catholic University at Cordoba       call  : LW3HAZ ON6JC
                                      ax.25 : lw3haz@lu2hdx.arg.sa
---------------------------------------------------------------------

 Nota: Ud. se comunicó con un número imaginario. Desconecte, rote
       su aparato 90 grado e intente nuevamente.

## 16. Re: [DSP:1026] In search of the EVM56002

From: Tim Baggett <tim@dsp.sps.mot.com>
Date: Sun, 5 Jul 1998 10:47:50 -0500 (CDT)
To: dsp@tapr.org
Message-ID: <Pine.GSO.3.96.980705104609.28363A-100000@aa5df>
Rendered body type: text/plain

On Sat, 4 Jul 1998, Douglas M. Pervine wrote:

> I have been looking for a place to buy the EVM56002.  Can anyone
> help?  I'd greatly appreciate it..

The tools group is trying to direct everyone to Monterey Tools. Try
www.montereytools.com and search for 56002evm. (there may be two 'r's in
monterrey...)

73,
Tim

## 17. Re: In search of the EVM56002

From: Fernando Mederos <fmederos@adinet.com.uy>
Date: Sun, 05 Jul 1998 18:16:39 -0300
To: dsp@tapr.org
Message-ID: <3.0.5.32.19980705181639.007df940@adinet.com.uy>
Rendered body type: text/plain

Hi,

>I have been looking for a place to buy the EVM56002.  Can anyone
>help?  I'd greatly appreciate it..

I bought mine a couple of months ago from 'Monterrey Tools' for US$149,
Motorola reccomended them to me (I told them I was a foreign buyer). Their
page is www.montereytools.com
I paid with credit card and they shipped to my forwarder...

Good luck, Fernando Mederos - CX6DD

## 18. EVM enclosure

From: kjh@goober.shoreline-studios.com (Ken Harris)
Date: Mon, 6 Jul 1998 11:37:53 -0700
To: dsp@tapr.org
Message-ID: <199807061837.LAA10742@goober.shoreline-studios.com>
Rendered body type: text/plain

Are the EVM enclosure kits available?

---
Ken J. Harris  voice:  650/969-7896 x 15  fax: 650/969-7864
mailto:kjh@shoreline-studios.com  http://www.shoreline-studios.com
snail mail: 1804 N. Shoreline Blvd, Ste 240, Mountain View, CA 94043
____/)_____/)__/)____

## 19. Re: [DSP:1032] EVM enclosure

From: "Steven R. Bible" <srbible@gate.net>
Date: Mon, 06 Jul 1998 17:22:50 -0400
To: dsp@tapr.org
Message-ID: <3.0.5.32.19980706172250.00821a50@pop.gate.net>
Rendered body type: text/plain

At 01:46 PM 7/6/98 -0500, you wrote:
>
>  Are the EVM enclosure kits available?

An announcement will be made in the next PSR....  Stand by!

- Steve
(n7hpr@tapr.org)

## 20. DCC Presentation.

From: Jacob W Janovetz <janovetz@ews.uiuc.edu>
Date: Tue, 7 Jul 1998 09:41:51 -0500 (CDT)
To: dsp@tapr.org
Message-ID: <199807071441.JAA18233@eesn18.ews.uiuc.edu>
Rendered body type: text/plain

Hello all...

I am presently working on my thesis at the University of Illinois.
I noticed that the DCC is in Chicago this year and wanted to
attend.  My thesis involves flexible architectures using DSPs and
FPGAs for communications work.  That is, the design of a system
that can be used for `playing' with communications.
I thought this may be interesting to others for presentation at
the DCC, but wasn't sure.  Can someone please tell me if this may be
a reasonable thing to present.  There is a small amount of information
on my home page...

Cheers,
Jake

--
janovetz@uiuc.edu  | Once you have flown, you will walk the earth with
University of Illinois | your eyes turned skyward, for there you have been,
| there you long to return.  -- da Vinci
PP-ASEL  | http://www.ews.uiuc.edu/~janovetz/index.html

## 21. Re: [DSP:1034] DCC Presentation.

From: "Greg Jones, WD5IVD" <wd5ivd@tapr.org>
Date: Tue, 7 Jul 1998 10:42:54 -0500
To: dsp@tapr.org
Message-ID: <v04003a17b1c7f1839bd2@[207.8.125.50]>
Rendered body type: text/plain

Sounds like what you are working on would be very interesting.  You should
write up a short paper on it and get into the proceedings.

Check out http://www.tapr.org/dcc for information on submitting a paper for
the proceedings and the author guidelines.

Hope to hear you present your paper in Sept.

Cheers - Greg, WD5IVD

>Hello all...
>
>   I am presently working on my thesis at the University of Illinois.
>I noticed that the DCC is in Chicago this year and wanted to
>attend.  My thesis involves flexible architectures using DSPs and
>FPGAs for communications work.  That is, the design of a system
>that can be used for `playing' with communications.
>   I thought this may be interesting to others for presentation at
>the DCC, but wasn't sure.  Can someone please tell me if this may be
>a reasonable thing to present.  There is a small amount of information
>on my home page...
>
>
>    Cheers,
>    Jake
>
>--
>   janovetz@uiuc.edu    | Once you have flown, you will walk the earth with
> University of Illinois | your eyes turned skyward, for there you have been,
>                        | there you long to return.     -- da Vinci
>        PP-ASEL         | http://www.ews.uiuc.edu/~janovetz/index.html


-----
Greg Jones, WD5IVD                 Austin, Texas
wd5ivd@tapr.org      http://www.tapr.org/~wd5ivd


Real World, The n.:
        5. Anywhere outside a university.  "Poor fellow, he's left UT
Austin and gone into the real world."

## 22. Re: [DSP:1034] DCC Presentation.

From: Tim Baggett <tim@dsp.sps.mot.com>
Date: Tue, 7 Jul 1998 11:10:54 -0500 (CDT)
To: dsp@tapr.org
Message-ID: <9807071603.AA18373@dsp.sps.mot.com>
Rendered body type: text/plain

Hi Jake,

I think your work would make a very good presentation at DCC, and I
believe many would be interested in seeing it. There is a lot of work
goign on in the FPGA world for high speed, low volume type
applications. Definatly not an area to ignore.

I liked your banner displayed on the scope with vectors. I did
something similar a few years ago with a TI C30 board. When I
discovered that I can create QPSK constellations with the I and Q
channels, I placed the NMSU logo on the scope. Got a little attention.
I've long lost the code. Wasn't anything near as impressive as your
program!

73,
Tim, AA5DF


---------------------------------------------------------------------
Tim Baggett                         Motorola Semiconductor Products
Email: tim@dsp.sps.mot.com          Digital Radio Systems / WSSG
Internal: RA5367@email              6501 William Cannon Dr West
Phone:    (512) 895-6718            Austin, Texas 78735-8598
FAX:      (512) 895-4665            http://www.mot.com/SPS/DSP
---------------------------------------------------------------------

## 23. Re: [DSP:1034] DCC Presentation.

From: Lyle Johnson <lylej@azstarnet.com>
Date: Tue, 07 Jul 1998 20:19:43 -0700

To: janovetz@uiuc.edu
Cc: dsp@tapr.org
Message-ID: <3.0.5.32.19980707201943.008b6980@pop.azstarnet.com>
Rendered body type: text/plain

>   I thought this may be interesting to others for presentation at
>the DCC, but wasn't sure.  Can someone please tell me if this may be
>a reasonable thing to present.  There is a small amount of information
>on my home page...
>
>
>    Cheers,
>    Jake

I looked at your website.  I'm interested!

Cheers,

Lyle

## 24. RE: EVM enclosure

From: "Jabi Aguirre" <govier02@sarenet.es>
Date: Wed, 8 Jul 1998 08:15:55 -0000
To: <dsp@tapr.org>
Message-ID: <001601bdaa48$a57ad620$4c6c1ec2@govier02>
Rendered body type: text/plain

Dear EVM friends
I have aucun EVM metalic enclosure. See photo attached.
73,s de Jabi, EA2ARU.
[Attachment: Evmmet.JPG; image/jpeg; 64,792 bytes]

## 25. Re: [DSP:1038] RE: EVM enclosure

From: "Paulus" <paulstra@xs4all.nl>
Date: Wed, 8 Jul 1998 09:43:12 +0200
To: <dsp@tapr.org>
Message-ID: <000901bdaa44$1038d520$06826dc2@machientje>
Rendered body type: text/plain

Hello Jabi,

How are you ?

Better send the JPG as an zipfile attached, because I could not read it hi.
I will try to set the parameters for MIME  on Base 64, instead of MIME no
coding.

Cheerio now

73 de Paul, pa0ocd

## 26. Re: [DSP:1039] RE: EVM enclosure

From: Marius.Hauki@datarespons.no (Marius Hauki)
Date: Wed, 08 Jul 1998 10:35:45 +0200
To: dsp@tapr.org
Message-ID: <35A32F61.1879FC65@datarespons.no>
Rendered body type: text/plain

Was not able to receive any attachment at all with Netscape Communicator 4x
..

73 de LA9EEA


Paulus wrote:

> Hello Jabi,
>
> How are you ?
>
> Better send the JPG as an zipfile attached, because I could not read it hi.
> I will try to set the parameters for MIME  on Base 64, instead of MIME no
> coding.
>
> Cheerio now
>
> 73 de Paul, pa0ocd

```
--
------------------------------------------------------------
Data Respons har nylig opprettet en mer formalisert
support-tjeneste basert på e-post.
Vennligst send beskrivelse av problemet på ENGELSK til
sw-support@datarespons.no for SW, h.h.v. til
hw-support@datarespons.no for HW.
------------------------------------------------------------
Marius Hauki                    Data Respons AS
Product Manager                 Sandviksveien 26
                                P.O. Box 489
                                N-1322 Hoevik
Dir.Ph. :+47 67 11 20 16        Norway
phone   :+47 67 11 20 00
fax     :+47 67 11 20 50        mailto:marius@datarespons.no
mob     :+47 90 09 16 66        http://www.datarespons.no
home    :+47 67 12 27 52
faxh    :+47 67 12 59 96
```

## 27. dsp56002evm problems

From: Itziar Martinez <itziar@bips00.bi.ehu.es>
Date: Wed, 8 Jul 1998 13:39:41 +0200 (CEST)
To: dsp@tapr.org
Message-ID: <Pine.LNX.3.96.980708132623.12244C-100000@bips.bi.ehu.es>
Rendered body type: text/plain

I have been trying to load programs into the board, but could not have any result. I have been using de evm56k for windows found in det.bi.ehu.es and tried to load the g3ruh with the bios2 from n1owu, but the execution looks to be continously interrupted by a ssi transfer with exception. I do not know if it is a problem of the board of if I have a wrong version of something.
could someone please how to load it step by step and what it is suposed to happen then, please?

## 28. Re: [DSP:1041] dsp56002evm problems

From: "Rodolfo Crespo" <rodolfoasenjo@hotmail.com>
Date: Wed, 08 Jul 1998 05:15:49 PDT
To: dsp@tapr.org
Message-ID: <19980708121553.7452.qmail@hotmail.com>
Rendered body type: text/plain

INSTRUCCIONES B□SICAS PARA CORRER LOS ENCIERROS DE PAMPLONA (Iru□a).
 BASIC BULL-RUNING RULES IN PAMPLONA (Ohio):
 Iru□eak aberrat□a osunagorria:

 1□ Es fundamental saber como son los toros. Para evitar este tipo de
 confusiones los toros suelen ser negros y los corredores visten
 generalmente de blanco. No obstante todos los a□os algun guiri
gilipollas  torea a alg□n navarro y se abraza a alg□n toro.

 2□ Es fundamental saber cual es la direcci□n del encierro. Todos los
a□os  alg□n gilipollas guiri corre hacia donde vienen los toros. Es
b□sico
saber que los toros llevan los cuernos hacia la direcci□n en la que
corren.

 3□ No es necesario respetar las se□ales de tr□fico cuando se corre un
 encierro. Es decir si ves un Stop no tienes que pararte ni ceder el
paso (el toro no lo suele hacer).

 4□ Es tradicional correr con un peri□dico enrollado en la mano. Nuestro

 consejo es levar dentro del peri□dico un objeto suficientemente
 contundente para ir apartando a los otros corredores.

 5□ Pese a que no est□ bien visto, en caso de cercan□a de los animales
una  zancadilla a otro corredor proporcionar□ entretenimiento suficiente
a
los toros para que tu ganes unos segundos important□simos.

 6□ Correr borracho no est□ recomendado porque si los toros te
empitonan,
 vaya desperdicio de whisky. Existe un excepci□n a dicha regla, y es el
 caso en el que hayas bebido mucho alcohol para desinfectar las posibles

 heridas desde dentro.
 7□ Pese a que se transmita el encierro por TV no es necesario saludar a

la c□mara para que te vea tu familia, sobre todo por el disgusto que le
puedes dar a tu pobre madre que no sab□a que ibas a correr.

8□ Si caes delante de los toros y estos se ceban con tu anatom□a,
defiendete como puedas, (lo ideal es un buen mordisco en los huevos del

bicho pero no siempre es posible)

9□ Si (Dios No lo quiera) eres herido en el transcurso del encierro no
vayas a la ambulacia, est□ al cargo de objetores, que trabajan gratis,

que no tienen ni puta idea, que tienen una resaca monumental porque han
estado emborrachandose como tu y encima est□n de mala hostia por tener
que
currar durante las fiestas.

10□ La mayor parte de la gente que corre los encierros no ve los toros
ni de lejos, (m□s de 2.500 personas contra 6 toros) y se lleva m□s
hostias

que una estera, empujones, pu□etazos, que viene que viene, que no
viene, que en la barrera hay m□s gente que en la guerra y no hay quien
se
suba, que no le caes bien a Patxi (el hombre de una sola neurona bajo la

Txapela), que la entrada a la plaza parece la puerta del corte ingl□s
el d□a de las rebajas,...

11□ Si optas por la opci□n de ver los toros desde la barrera coge sitio

antes de las 5 de la ma□ana. Si no es posible que no puedas ni
acercarte a m□s de 2 calles de la Estafeta.

INDUMENTARIA RECOMENDADA.

Zapatillas ligeras, o botas e puntera de acero.
Pantal□n amplio, blanco, que no tire de la sisa ni oprima la
taleguilla.
(No se admitir□n lunares o cuadros).
Camisa amplia preferiblemente blanca, o camiseta negra con grupos
musikales euskaldunes radikales (una es buena para los toros, con la
otra ganar□s alguna amistad que otra).
Faj□n rojo, que puede ser sustituido por cintur□n negro, cuerda,
tirantes y cualquier cosa que impida que se te caigan los pantalones.
ropa interior comoda (y limpia dentro de lo posible imaginate que te
coge el toro y sales en todos los informativos con un "frenazo" en los
calzones).
Txapela blindada, casco de moto o chichonera para evitar que te embista

alg□n Patxi y te deje seco.
Pu□o americano.
Peri□dico (a ser posible el ABC - que no hay bicho viviente que lo
soporte)

CONSEJOS PR□CTICOS. PERNOCTAR EN PAMPLONA.

Es bastante jodido el tema del alojamiento. Generalmente te estafan
unos miles de pesetas por dormir en un armario ropero compartido con
unos
franceses. Si vas a dormir en la calle lo mejor es el parque de la
ciudadela (es el m□s grande). No obstante lo mejor es alojarse fuera de

pamplona en alg□n pueblo de alrededor, estar de marcha toda la puta
noche y despues de los encierros ir a coger (o gastar) fuerzas en una
cama

decente y despu□s de desayunar-comer bien volver a la carga.

Hay mucha mucha mucha mucha gente. Por lo que es generalmente dificil
entrar en los bares. Puede ser □til mantener una reserva alcoholica en
el maletero del coche. No os tomeis el chocolate despu□s del encierro en

los bares cercanos. Te estafar□n por un vaso de pl□stico lleno de agua
caliente y sucia.

Hay consigna para guardar equipajes en la estaci□n de autobuses, lo que

es de lo m□s □til para no cargar con objetos molestos (por ejemplo el

amigo
 borracho).

_____
Get Your Private, Free Email at http://www.hotmail.com

## 29. Re: [DSP:1042] Re: dsp56002evm problems

From: Tim Baggett <tim@dsp.sps.mot.com>
Date: Wed, 8 Jul 1998 08:33:28 -0500 (CDT)
To: dsp@tapr.org
Cc: tim@dsp.sps.mot.com
Message-ID: <9807081326.AA23239@dsp.sps.mot.com>
Rendered body type: text/plain

> INSTRUCCIONES BÁSICAS PARA CORRER LOS ENCIERROS DE PAMPLONA (Iruña).
>  BASIC BULL-RUNING RULES IN PAMPLONA (Ohio):

I wouldn't recommend this for your 56002EVM. Even if you had it safely housed in a TAPR enclosure, certain parts of the EVM can be pretty sensitive to shock and being kicked around.

I'm not familiar with the bulls of Ohio, but here in Texas, especially in the Austin area where the 56002 is 'home', we have a lot of long horn bulls. A single hoof from a Texas long horn can easily flatten most any enclosure you may place the EVM in, and could possibly break the PCB.

I once got mad at my EVMs and kicked it (without an enclosure) and it wouldn't work again. I suspect I broke the crystal oscillator. I imagine the G forces that would be inflicted upon an EVM when kicked by a bull might be pretty severe.

We haven't yet fully tested the EVM with a longhorn bull here at Moto Austin yet though. We once had trouble with the longhorns coming into the building from the parking lot, but we soon found out that many of them were Univ Texas longhorns who worked here, so we had to let them in.

73,
Tim, AA5DF


---
Tim Baggett                          Motorola Semiconductor Products
Email: tim@dsp.sps.mot.com           Digital Radio Systems / WSSG
Internal: RA5367@email               6501 William Cannon Dr West
Phone:    (512) 895-6718             Austin, Texas 78735-8598
FAX:      (512) 895-4665             http://www.mot.com/SPS/DSP
---


## 30. TAPR EVM56002 Interface boards and Enclosure Kit

From: "Greg Jones, WD5IVD" <wd5ivd@tapr.org>
Date: Wed, 8 Jul 1998 21:06:36 -0500
To: " TAPR/AMSAT DSP "<dsp@tapr.org>,
        "TAPR-BB  list   mailing"<tapr-bb@tapr.org>
Message-ID: <v04003a0fb1c9d0690a32@[207.8.125.50]>
Rendered body type: text/plain

Introducing the TAPR EVM56002 Interface boards and Enclosure Kit
http://www.tapr.org/tapr/html/dsp56002evm.html

TAPR is now taking orders for the first round of EVM56002 Interface with enclosure kits until September 15th.

This kit provides:
        An EVM Interface Board Kit and Enclosure for the Motorola EVM56002
        All parts - including screws and standoffs
        Schematics and Documentation (Assembly and Operations)
        Software

        A Motorola EVM56002 (DSP) Interface board IS NOT INCLUDED

The price is:

       $135.00 US for members of TAPR
       or
       $150.00 US for non-members
       + shipping/handling

TAPR kits can be complex depending on the kitting experience of each builder. We don't think you will have trouble with the interface kit, but it does require some knowledge and experience to successfully go from a kit to a finished, usable unit, depending on the mode of operations. For data radio applications (i.e. 9600 baud FSK), special modifications must be made to your radio for proper operation of the EVM interface. In addition, the interface kit requires that you have a Motorola EVM56002 Interface unit. These can be purchased from several electronic distributors (see web page).

TAPR requires that kit purchasers provide VISA/MC information or checks/money orders with their initial purchases. Money for the initial kit purchase will be deposited on September 15th, 1998 to cover kitting costs. Orders will be taken for the first 200 units. If more than 200 units are ordered, then a second or third batch will be done as soon as additional parts inventory can be purchased and kitted. In this way, the interface kit will be provided in the exact numbers required for the demand. After this initial kit offering, EVM interface kits will be provided in batches as the demand warrants doing kits. The initial batch of kits will be as large as the demand requires, which we hope is large. The more the merrier!

EVM interface kit orders for the initial purchase will be taken until September 15th, 1998. Orders can be mailed to the TAPR address: 8987-309 E. Tanque Verde Rd #337, Tucson, Az, 85749-9399, call (940) 383-0000 (Office Hours: Tue-Fri, 9am-12noon, 3pm-5pm Central Time), or fax (940) 566-2544. If you have questions concerning the unit, check the web page.

The interface kit has been discussed for about the last year, with a group coming forward late in 1997 to complete the design process. PSR Issue #69, Winter 1998, has the full description with photos. Current information on the kit is now available at http://www.tapr.org/tapr/html/dsp56002evm.html

This design of the radio interface for the Motorola DSP56002EVM is based on Johan Forrer's, KC7WW, original design. In February 1997, Douglas Braun, N1OWU, released his software suite for the EVM, based on the Finnish Alef Null groups work, and revised his interface to be more flexible than Johan's. The TAPR interface is a happy medium between Johan's and Doug's design. The goal is to make the interface flexible for past and present code developed for the EVM and to create a flexible programming interface for future programmers.

The development team consists of:

| | |
|---|---|
| Steve Bible, N7HPR | Project Manager, Prototype builder |
| Lyle Johnson WA7GXD | PCB design and Prototype builder |
| Johan Forrer KC7WW | Prototype builder |
| Tim Baggett, AA5DF | Prototype builder |
| Douglas Braun, N1OWU | Prototype builder |
| John Koster, W9DDD | PCB Liaison, Beta Tester |
| Mark Hammond, KC4EBR | Beta Tester |
| Bdale Garbee, N3EUA | Beta Tester |
| Keith Justice, KF7TP | Beta Tester |
| John Ackerman, N8UR | Beta Tester |
| Frank Perkins, WB5IPM | Beta Tester |
| Steven Taft, KA1WX | Beta Tester |
| David Borden, K8MMO | Beta Tester |
| Louis Cobet, K6MDH | Beta Tester |
| Jim Lynch, K4GVO | Beta Tester |
| L.J. Shepard | Beta Tester |
| Greg Jones, WD5IVD | Assistant Project Manager |
| Joe Borovetz, WA5VMS | Part Procurement |
| Rich Mulvey, AA2YS | Documentation |


---
Tucson Amateur Packet Radio
8987-309 E Tanque Verde Rd #337 * Tucson, Az * 85749-9399
---
e-mail: tapr@tapr.org web: <http://www.tapr.org/>
ftp: ftp.tapr.org
phone: 940-383-0000 fax: 940-565-2544
---


## 31. PSK31 and MT63

From: "L. J. Shepherd" <ljs@west.net>
Date: Wed, 08 Jul 1998 19:09:48 -0700
To: hfsig@tapr.org
Cc: dsp93dev@tapr.org
Message-ID: <3.0.2.32.19980708190948.006ab9c8@west.net>

Rendered body type: text/plain

Hello Group:

I am up and running with my EVM and EVMRI on PSK31 and MT63 hf keyboard to keyboard modes. Please let me know if any of you would like to schedule a test......any band except 75 meters.  Thanks.  L. J. Shepherd K6OYY  TAPR 502

## 32. Re: [DSP:1044] TAPR EVM56002 Interface boards and Enclosure Kit

From: "L. J. Shepherd" <ljs@west.net>
Date: Wed, 08 Jul 1998 23:17:12 -0700
To: dsp@tapr.org
Cc: dsp93dev@tapr.org
Message-ID: <3.0.2.32.19980708231712.006b6a10@west.net>
Rendered body type: text/plain

Greg,  I think you meant to say, Under "the kit includes" .......a Motorola EVM56002 Unit is NOT INCLUDED...........not an "interface board" which obviously is included. The only other thing I noticed was the mispelling of my last name, which is "Shepherd"  (like the dog).....not Shepard. Thanks......L. J.

At 09:09 PM 7/8/98 -0500, you wrote:
>Introducing the TAPR EVM56002 Interface boards and Enclosure Kit
>http://www.tapr.org/tapr/html/dsp56002evm.html
>
>TAPR is now taking orders for the first round of EVM56002 Interface with
>enclosure kits until September 15th.
>
>This kit provides:
>       An EVM Interface Board Kit and Enclosure for the Motorola EVM56002
>       All parts - including screws and standoffs
>       Schematics and Documentation (Assembly and Operations)
>       Software
>
>       A Motorola EVM56002 (DSP) Interface board IS NOT INCLUDED
>
>The price is:
>
>       $135.00 US for members of TAPR
>       or
>       $150.00 US for non-members
>       + shipping/handling
>
>TAPR kits can be complex depending on the kitting experience of each
>builder.  We don't think you will have trouble with the interface kit, but
>it does require some knowledge and experience to successfully go from a kit
>to a finished, usable unit, depending on the mode of operations.  For data
>radio applications (i.e. 9600 baud FSK), special modifications must be made
>to your radio for proper operation of the EVM interface.  In addition, the
>interface kit requires that you have a Motorola EVM56002 Interface unit.
>These can be purchased from several electronic distributors (see web page).
>
>TAPR requires that kit purchasers provide VISA/MC information or
>checks/money orders with their initial purchases.  Money for the initial
>kit purchase will be deposited on September 15th, 1998 to cover kitting
>costs.  Orders will be taken for the first 200 units.  If more than 200
>units are ordered, then a second or third batch will be done as soon as
>additional parts inventory can be purchased and kitted.  In this way, the
>interface kit will be provided in the exact numbers required for the
>demand.  After this initial kit offering, EVM interface kits will be
>provided in batches as the demand warrants doing kits.  The initial batch
>of kits will be as large as the demand requires, which we hope is large.
>The more the merrier!
>
>EVM interface kit orders for the initial purchase will be taken until
>September 15th, 1998.  Orders can be mailed to the TAPR address: 8987-309
>E. Tanque Verde Rd #337, Tucson, Az, 85749-9399, call (940) 383-0000
>(Office Hours: Tue-Fri, 9am-12noon, 3pm-5pm Central Time), or fax (940)
>566-2544.  If you have questions concerning the unit, check the web page.
>
>The interface kit has been discussed for about the last year, with a group
>coming forward late in 1997 to complete the design process.  PSR Issue #69,
>Winter 1998, has the full description with photos.  Current information on
>the kit is now available at http://www.tapr.org/tapr/html/dsp56002evm.html
>
>This design of the radio interface for the Motorola DSP56002EVM is based on

>Johan Forrer's, KC7WW, original design.  In February 1997, Douglas Braun,
>N1OWU, released his software suite for the EVM, based on the Finnish Alef
>Null groups work, and revised his interface to be more flexible than
>Johan's.  The TAPR interface is a happy medium between Johan's and Doug's
>design.  The goal is to make the interface flexible for past and present
>code developed for the EVM and to create a flexible programming interface
>for future programmers.
>
>The development team consists of:
>       Steve Bible, N7HPR        Project Manager, Prototype builder
>       Lyle Johnson WA7GXD       PCB design and Prototype builder
>       Johan Forrer KC7WW        Prototype builder
>       Tim Baggett, AA5DF        Prototype builder
>       Douglas Braun, N1OWU      Prototype builder
>       John Koster, W9DDD        PCB Liaison, Beta Tester
>       Mark Hammond, KC4EBR      Beta Tester
>       Bdale Garbee, N3EUA       Beta Tester
>       Keith Justice, KF7TP      Beta Tester
>       John Ackerman, N8UR       Beta Tester
>       Frank Perkins, WB5IPM     Beta Tester
>       Steven Taft, KA1WX        Beta Tester
>       David Borden, K8MMO       Beta Tester
>       Louis Cobet, K6MDH        Beta Tester
>       Jim Lynch, K4GVO          Beta Tester
>       L.J. Shepard              Beta Tester
>       Greg Jones, WD5IVD        Assistant Project Manager
>       Joe Borovetz, WA5VMS      Part Procurement
>       Rich Mulvey, AA2YS        Documentation
>
>-------------------------------------------------------------------------
>Tucson Amateur Packet Radio
>8987-309 E Tanque Verde Rd #337 * Tucson, Az * 85749-9399
>-------------------------------------------------------------------------
>e-mail: tapr@tapr.org       web: <http://www.tapr.org/>
>ftp:    ftp.tapr.org
>phone:  940-383-0000        fax: 940-565-2544
>-------------------------------------------------------------------------
>
>
>

## 33. INCORRECT MAIL ADDRESS

From: "apogee" <apogee@powerup.com.au>
Date: Mon, 6 Jul 1998 11:09:36 +1000
To: <dsp@tapr.org>
Message-ID: <199807091031.FAA18021@tapr.org>
Rendered body type: text/plain

DEAR SIR,

WE ARE CURRENTLY RECEIVING 10 TO 20 EMAIL MESSAGES PER DAY.

oUR LOGIN NAME AND COMPANY NAME IS APOGEE BUT THE MAIL IS

NOT RELEVENT TO US.

COULD YOU PLEASE ADVISE WHOMEVER THAT:

APOGEE@POWERUP.COM.AU   SHOULD NOT BE ON YOUR MAILING LIST.

MANY THANX IN ANTICIPATION AND GOOD LUCK IN THE FUTURE..


DAVE.....................................

## 34. Re: [DSP:1047] INCORRECT MAIL ADDRESS

From: "Rodolfo Crespo" <rodolfoasenjo@hotmail.com>
Date: Thu, 09 Jul 1998 05:07:46 PDT
To: dsp@tapr.org
Message-ID: <19980709120749.2349.qmail@hotmail.com>
Rendered body type: text/plain

DEAR SIR,

WE ARE CURRENTLY RECEIVING 10 TO 20 EMAIL MESSAGES PER DAY.

oUR LOGIN NAME AND COMPANY NAME IS APOGEE BUT THE MAIL IS

NOT RELEVENT TO US.

COULD YOU PLEASE ADVISE WHOMEVER THAT:

rodolfoasenjo@hotmail.com  SHOULD NOT BE ON YOUR MAILING LIST.

MANY THANX IN ANTICIPATION AND GOOD LUCK IN THE FUTURE..

Rodolfo also.....

_____
Get Your Private, Free Email at http://www.hotmail.com

## 35. For Your Eyes Only

From: "Lisa" <89333240@19441.com>
Date: Thu, 09 Jul 98 16:24:03 EST
To: Only.Me@19441.com
Message-ID: <007801bda6a2$0673b140$37ab9dcc@ativg.co>
Rendered body type: text/plain

<HTML><PRE><BODY BGCOLOR="#000000"><FONT COLOR="#00FFFF" SIZE=3>
Hi...

I would like to inform you of a great sex site on the web. it contains everything you will ever dream of.

There is also a Live Sex Show from Amsterdam, with sound and a chat box.

Go check it out

http://www.angelfire.com/ak/moonshine81/index.html

Loads of Free Videos and Free Pictures

Love

Lisa

</FONT><FONT  COLOR="#000000" SIZE=3>

## 36. PC-DSP (1 left)

From: "Dorothy Jones, KA5DWR" <ka5dwr@tapr.org>
Date: Mon, 13 Jul 1998 20:14:37 -0500
To: dsp@tapr.org
Message-ID: <3.0.5.32.19980713201437.007e7d60@tapr.org>
Rendered body type: text/plain

Several (several) months ago we offered a special group purchase for the
PC-DSP software group.

There is one copy that was never spoken for.

First come, first sold for $220.

Cheers - Greg
(using TAPR Office account -- reply here).

## 37. HAMVIEW V 2.05 available

From: Alberto di Bene <dibene@usa.net>
Date: Tue, 14 Jul 1998 15:59:46 +0200
To: dsp@tapr.org, hfsig@tapr.org
Message-ID: <35AB6452.6E9A6673@usa.net>
Rendered body type: text/plain

This is to announce the availability of HAMVIEW V 2.05 at the site
reported below.

WHAT IS HAMVIEW ?
-------------------------

To say it in a few words, HAMVIEW is a program that:

- gets an audio signal either from a Sound Blaster(TM) compatible card

or
  from a .wav file
- performs a windowed spectral analysis on the incoming signal
- display the signal spectrum on the video screen using a carefully
matched
  color scheme
- performs some enhancement on the signal using signal processing
methods
- plays the filtered signal at the output of the audio card
- and last but not least, all these goodies are done in real time!
(well, to
  be honest with about one second of delay from the input to the output,

  due to the data windows used for signal analysis and processing).

The program was especially developed for radio amateurs interested into
all these communication techniques where signals very close to (or more
often below) the receiver noise floor are used, like EME, VLF (137 kHz),
and so on.
However we believe that Hamview will be of value also for HF and VHF CW
lovers (try it... we never found a point-and-click CW filter on a
commercial receiver!!!), and so on.

HAMVIEW is available to all radioamateurs at the following site :
                http://www.freeyellow.com/members/padan

Any feedback is welcome

Alberto di Bene,        I2PHD
Vittorio De Tomasi,   IK2CZL

## 38. Re: [DSP:1050] PC-DSP (1 left)

From: jhandle <jhandle@ibm.net>
Date: Wed, 15 Jul 1998 01:13:12 -0400
To: dsp@tapr.org
Message-ID: <35AC3A68.7277@ibm.net>
Rendered body type: text/plain

Dorothy Jones, KA5DWR wrote:
>
> Several (several) months ago we offered a special group purchase for the
> PC-DSP software group.
>
> There is one copy that was never spoken for.
>
> First come, first sold for $220.
>
> Cheers - Greg
> (using TAPR Office account -- reply here).
Greg: If not gone hold for me to call tomorrow I want the unit.
Also I want to renew my TAPR menbership...
73,
   Joe Handley K3LLL jhandle@ibm.net Member #871

## 39. [DSP:1051] ADPCM

From: Chuen Ming Tan <TANCMING@hitachi.com.my>
Date: Wed, 15 Jul 1998 17:50:22 +0800
To: dsp@tapr.org, dibene@usa.net
Message-ID: <s5acebfe.003@gwsmtp.hisem.com>
Rendered body type: text/plain

Has anyone tried doing ADPCM on a microcontroller? Thinking of
including this feature into a handheld to do CQ calls by pressing only
a button.

73s de Ming

## 40. Re: [DSP:1050] PC-DSP (1 left)

From: jhandle <jhandle@ibm.net>
Date: Wed, 15 Jul 1998 11:39:59 -0400
To: dsp@tapr.org
Message-ID: <35ACCD4F.2552@ibm.net>
Rendered body type: text/plain

Hi: Please what is your correct phone number there//
1(817)383-0000 doesn't work anymore - misplaced my PSR...TNX :-(
Voice or FAX or both ... I need to renew membership...
Also interested in PC-DSP but need to ask questions ;-)

73,
   Joe Handley K3LLL Member #871

---
Dorothy Jones, KA5DWR wrote:
>
> Several (several) months ago we offered a special group purchase for the
> PC-DSP software group.
>
> There is one copy that was never spoken for.
>
> First come, first sold for $220.
>
> Cheers - Greg
> (using TAPR Office account -- reply here).

## 41. Re: [DSP:1054] Re: PC-DSP (1 left)

From: "Greg Jones, WD5IVD" <wd5ivd@tapr.org>
Date: Wed, 15 Jul 1998 11:19:14 -0600
To: dsp@tapr.org
Message-ID: <v04011704b1d294f7f206@[169.203.249.107]>
Rendered body type: text/plain

940-383-0000

Greg

>Hi: Please what is your correct phone number there//
>1(817)383-0000 doesn't work anymore - misplaced my PSR...TNX :-(
>Voice or FAX or both ... I need to renew membership...
>Also interested in PC-DSP but need to ask questions ;-)
>73,
>   Joe Handley K3LLL Member #871
>
>---
>Dorothy Jones, KA5DWR wrote:
>>
>> Several (several) months ago we offered a special group purchase for the
>> PC-DSP software group.
>>
>> There is one copy that was never spoken for.
>>
>> First come, first sold for $220.
>>
>> Cheers - Greg
>> (using TAPR Office account -- reply here).

-----
Greg Jones, WD5IVD                Austin, Texas
wd5ivd@tapr.org      http://www.tapr.org/~wd5ivd

## 42. ?PACTOR II, PCT 2 on DSK320C50/EVM56002?

From: pa0rbc@port.ve3mch.ampr.org
Date: Sun, 19 Jul 1998 23:29:47 edt
To: dsp@tapr.org
Message-ID: <35496@port.ve3mch.ampr.org>
Rendered body type: text/plain

Dr OM's,
Possible you have heard about the very good PACTOR 2 PSK modem of the
Fa. SCS, (look on internet: http://www.scs-ptc.com)
The modem seems to work -7db below the noise, so a very good performance!

My question is, has one of us written a pactor 2 program for the
TI DSK320C50 and/or the EVM56002? It seems not.
The pactor 1 program from Tom Sailer, HB9JNX, works fb!
Many thanks in advance for your answer.
'73, Roeland, via packet: pa0rbc@pi8sat.#nh1.nld.eu
                    email: pa0rbc@ve3mch.ampr.org

## 43. ?PACTOR II, PCT 2 on DSK320C50/EVM56002?

From: pa0rbc@port.ve3mch.ampr.org
Date: Sun, 19 Jul 1998 23:53:18 edt
To: dsp@tapr.org
Message-ID: <35509@port.ve3mch.ampr.org>
Rendered body type: text/plain

Dr OM's,
Possible you have heard about the very good PACTOR 2 PSK modem of the
Fa. SCS, (look on internet: http://www.scs-ptc.com)
The modem seems to work -7db below the noise, so a very good performance!

My question is, has one of us written a pactor 2 program for the
TI DSK320C50 and/or the EVM56002? It seems not.
The pactor 1 program from Tom Sailer, HB9JNX, works fb!
Many thanks in advance for your answer.
'73, Roeland, via packet: pa0rbc@pi8sat.#nh1.nld.eu
email: pa0rbc@ve3mch.ampr.org

## 44. Re: [DSP:1057] ?PACTOR II, PCT 2 on DSK320C50/EVM56002?

From: Thomas Sailer <sailer@ife.ee.ethz.ch>
Date: Mon, 20 Jul 1998 09:45:59 +0200
To: dsp@tapr.org
Message-ID: <35B2F5B7.6341652@ife.ee.ethz.ch>
Rendered body type: text/plain

pa0rbc@port.ve3mch.ampr.org wrote:
>
> Dr OM's,
> Possible you have heard about the very good PACTOR 2 PSK modem of the
> Fa. SCS, (look on internet: http://www.scs-ptc.com)
> The modem seems to work -7db below the noise, so a very good performance!

Pactor II is a proprietary protocol, it is not documented.
Implementing it would therefore require to either reverse engineer it
or to obtain a license from SCS. The latter is not justified if you
don't
want to make big money with the stuff, the former is IMNSHO not worth
the effort, as the Pactor II protocols has numerous deficiencies
(link setup in Pactor I mode, Memory ARQ being the marketing way of
saying one doesn't have the faintest idea about noise properties on the
channel)

Tom

## 45. RE: [DSP:1058] Re: ?PACTOR II, PCT 2 on DSK320C50/EVM56002?

From: stephane riviere <sr@hol.fr>
Date: Mon, 20 Jul 1998 10:36:34 +0200
To: "'dsp@tapr.org'" <dsp@tapr.org>
Message-ID: <01BDB3CA.531DA7A0@ST2>
Rendered body type: text/plain

the effort, as the Pactor II protocols has numerous deficiencies
(link setup in Pactor I mode, Memory ARQ being the marketing way of
saying one doesn't have the faintest idea about noise properties on the
channel)

Therorical point of view...

The link setup in pactor 1 is not a lack, but a compatibility need...
In practise there is no penalty to begin a link (the setup is very short) in pactor 1
Memory ARQ (wave memory in pactor 2) works really fine...

The pactor 2 is probably the best narrow-band (450 Hz) protocol and the ptc-II implementation is a
little masterpiece...

This is my real world point of view. (We have tried most everything since many years).

Sorry for my english.

Steve.


```
begin 600 WINMAIL.DAT
M>)\^(CL(`0:0" `$`````!``$``0>0!@`(````Y 0``````#H``$(@ <`
M& ```$E032Y-:6-R;W-O9G0@36%I;"Y.;W1E`#$(`0V ! `"`````@`"``$$
MD 8`^ ````$````,`````P``, (````+``\.``````(!_P\!````-P``````
M``"!*Q^DOJ,0&9UN`-T!#U0"`````&1S<$!T87!R+F]R9P!33510`&1S<$!T
M87!R+F]R9P``'@`", $````%````4TU44 `````>``,P`0```T```!D<W!
M=&%P<BYO<F<``````P`5# $````#`/X/!@```!X``3 !````#P```"=D<W!
M=&%P<BYO<F<G```"`0LP`0```!(```!33510.D134$!405!2+D]21P````,`
M`#D`````"P! .@$````"`?8/`0````0`````````"`R8!!( !`#P```!213H@
M6T134#HQ,#4X72!293H@/U!!0U1/4B!)22P@4$-4(#(@;VX@1%-+,S(P0S4P
M+T56334V,# R/P"7#@$%@ ,`#@```,X'!P`4``H`) `B``$`00$!(( #``X`
M``#.!P<`% `*`!L`"@`!`" !`0F `0`A````,48Q0C1#.$(R,S%%1#(Q,4%$
M.44P,#0P,#4S,4(P-$4`"0<!`Y &`'@$```4````"P`C``````#`"8`````
```

```
M``L`*0```````P`N```````#`#8``````$ `.0`P:JF N;.]`1X`< `!````
M/ ```%)%.B!;1%-0.C$P-3A=(%)E.B _4$%#5$]2($E)+"!00U0@,B!O;B!$
M4TLS,C!#-3 O159--38P,#(_``(!<0`!````%@````&]L[F I(M,&R >(Q'2
MK9X`0 4QL$X``!X`'@P!````!0```%--5% `````'@`?# $````*````<W)
M:&]L+F9R`````P`&$$)*7.(#``<0*@(``!X`"! !````90```%1(145&1D]2
M5"Q!4U1(15!!0U1/4DE)4%)/5$]#3TQ32$%33E5-15)/55-$149)0TE%3D-)
M15,H3$E.2U-%5%5024Y004-43U))34]$12Q-14U/4EE!4E%"14E.1U1(14U!
M4DL``````@$)$ $```#2`@``S@(``*D$``!,6D9U997J*/\`"@$/`A4"I /D
M!>L"@P!0$P-4`@!C: K <V5T[C(&``;#`H,R`\8'$P*#$C,3#V8T#WIH96S1
M`R!$;&<"@'T*@ C/Q0G9.Q>?,C4U`H *@0,-L0M@;F<Q,#,V5PK[$O(,`6,`
M0" *BVR^:1K@#? +510B# %P`V#6= 60!4!T%B @#<$705@L(&$$(!\24 #0
M=-$%L4E)(!Z2;Q<1!""S$< $(&YU!X #8'4$(*D-L6EC")!N(I%S"H4B*!U0
M;FL@$?%U<#8@"X @-R $8A^P364)!&!R>1-P4E$@8IIE"X!G'P,`P')K$@!)
M)C)W826P;V8*A7-/)V F,@(@'5!D;P>0;K8G!4 1P'8?,!\29@MQU1[ <P5
M:0VP81_ !N!R=05 ;F\$`!\P'I%P?P20)P``D0(@'P(*A1&Q;GDHH&PI"H\;
MKQR_+F]4]Q8@`V %$&,'0"#0*S ",,DG@2!V")!W+C- +87[+84QP2 CG"VP
M(&,O4 0`3RL1!4 JH M@8VL?L&*W*O$JH 6@;2VP)P!B`Q"\:70EL"B@"8 S
M2$DU4?YR(%$K0A\1%Z U]"#0"?#O!T X`2!P)@%G)$$V<2.B/B@?$B/E!" I
M<"6A<VC=%T$I-3HMA25I*"=0*7%7!X E@S5(,CV0=P6P:_<$(!>@!T!L); B
M<"B@,T_O-%) AC7R'I%B`:!!P1\2ER80*D$ZL'(#8'<M1' $;F0C<#0U,"!(
M?GH]D"#F'\!%\1\2!3!C_BT@L0=P"U E< GP`9 G`/\L,38!.Z("0$A@)J$J
M0 20^G (D&-"(B]F,^<V`38![FTEL$&"01)L1@`R?"-P?E<?,"E4"(%&``1@
M*D%EOSSR'Q F,@"0(L FDFXEL-9Y*I 1X"E"75,%L"6A]Q]Q3"()\&<=4#U
M40X>P+\I<$)=,)T>EBV%%L$`5X ```,`$! ``````P`1$ $```! ``<P4/%Q
M,+BSO0% ``@P4/%Q,+BSO0$>`#T``0````4```!213H@``````,`#33]-P``
"0S"S
`
end
```

## 46. [DSP:1051] Development Kit

From: Chuen Ming Tan <TANCMING@hitachi.com.my>
Date: Wed, 22 Jul 1998 07:58:02 +0800
To: dsp@tapr.org, dibene@usa.net
Message-ID: <s5b59ba6.099@gwsmtp.hisem.com>
Rendered body type: text/plain

Can someone tell me how I can get started in DSP? I would probably
need a development kit like the C50s. Any suggestion would be helpful.

Thanks,
M1BBH

## 47. [DSP:1060] Development Kit

From: "John T. Solar" <John_Solar@compuserve.com>
Date: Tue, 21 Jul 1998 21:42:48 -0400
To: "INTERNET:dsp@tapr.org" <dsp@tapr.org>
Message-ID: <199807212158_MC2-53CF-5B34@compuserve.com>
Rendered body type: text/plain

I think the C54x is much better.  If you can swing it Motoroloa (I am a
Moto employee so I am biased), try the Motorola 56362 EVM for around $500.
It is good for hooking directly up to your stereo.  Otherwise there are
$100 kits around.

John Solar

## 48. [DSP:1061] Development Kit -Reply

From: Chuen Ming Tan <TANCMING@hitachi.com.my>
Date: Wed, 22 Jul 1998 12:09:22 +0800
To: John_Solar@compuserve.com, dsp@tapr.org
Message-ID: <s5b5d67f.049@gwsmtp.hisem.com>
Rendered body type: text/plain

Is there any website selling the C54x kits online?

Thanks,
M1BBH

>>> "John T. Solar" <John_Solar@compuserve.com> 22/July/1998 10:03am
>>>
I think the C54x is much better.  If you can swing it Motoroloa (I am
a
Moto employee so I am biased), try the Motorola 56362 EVM for around
$500.
It is good for hooking directly up to your stereo.  Otherwise there
are
$100 kits around.

John Solar

## 49. DSP PMCs - up to 4 SHARC processors per card

From: Ixthos <ixthos@dsp2.dspnet.com> (by way of Greg Jones, WD5IVD)
Date: Wed, 22 Jul 1998 00:03:58 -0600
To: " TAPR/AMSAT DSP "<dsp@tapr.org>
Message-ID: <v04011708b1db314521e6@[169.203.250.25]>
Rendered body type: text/plain

FYI -- Greg
----

IXTHOS, INC. INTRODUCES TWO NEW SHARC PMC MODULES
(PMCs work as powerful on-board compute engine or high-performance link to external DSPs)

> > > > > > > > > > > > > > > > > > > > > > > > > > > > > > > > > > > > > >

Ixthos, Inc. is pleased to announce the release of two new SHARC DSP PMC modules - the IXZPMC4 (4 SHARCs) and the IXZPMC1 (1 SHARC).

The IXZPMC4 incorporates four SHARC DSPs to deliver nearly half a GFLOP (480MFLOPS) of computing power completely within the host board environment. The product has options of either SRAM or DRAM cluster memory, and a PCI-SHARC throughput of 132MB/s (80MB/s sustained) on a 32-bit, 33MHz PCI bus. These features effectively reduce the delay between data acquisition and processing by eliminating the need to perform off-board data transfers to another DSP engine. On baseboards containing two PMC slots, almost a full GFLOP of computational power can be delivered before resorting to off-board units for additional processing power.

In applications requiring off-board data communications, the IXZPMC1 functions as a high-performance bridge to external SHARC processors needing to link to the PCI bus. Data can be transferred between the IXZPMC1 and other DSP boards via 6 SHARC link ports (40MB/s each) and 2 serial ports.

PMCtools, a complete set of host and SHARC DSP software, is available for these boards. It provides a comprehensive development environment and application libraries to facilitate rapid development cycles.

For pricing and additional information, contact:
Sales Department
Ixthos, Inc.
741-G Miller Drive, SE
Leesburg, VA 20175.
Tel: 703/779-7800
Fax: 703/779-7805
E-mail: sales@ixthos.com;
Web: http://www.ixthos.com/

Specifications:
- - - - - - - IXZPMC4 - - - - - - -
4 SHARC (ADSP-21060L) for 480MFLOPS
PCI-SHARC throughput of 132MB/s (80MB/s sustained)
32-bit, 33MHz PCI bus
32K x 32 dual port SRAM
2MB SRAM or 32MB DRAM
16MBit Flash Memory
12 off-board link ports
1 serial port

- - - - - - - IXZPMC1 - - - - - - -
1 SHARC (ADSP-21060) for 120MFLOPS
PCI-SHARC throughput of 132MB/s (80MB/s sustained)
32-bit, 33MHz PCI bus
32K x 32 dual port SRAM
128K x 32 SRAM
16MBit Flash Memory
6 off-board link ports
2 serial port

Ixthos, Inc., headquartered in Leesburg, VA, specializes in complete solutions for high-performance digital signal processing (DSP). The company is particularly expert in the application of floating-point DSPs from Analog Devices, Inc., coupled with very high-speed analog and digital I/O devices. Applications for the company's products include communications, radar, sonar, audio, and imaging for commercial and military OEM customers. Ixthos is a wholly-owned subsidiary of DY 4 Systems, Inc., Kanata, Ontario.

## 50. ALACRON SHARC-BASED DSP BOARDS YIELD HIGHER SCALABLE PERFORMANCE THAN TRADITIONAL DESIGNS

From: Alacron <alacron@dsp2.dspnet.com> (by way of Greg Jones, WD5IVD)
Date: Sat, 25 Jul 1998 07:55:39 -0600
To: " TAPR/AMSAT DSP "<dsp@tapr.org>
Message-ID: <v04011704b1df9453a665@[169.203.249.107]>
Rendered body type: text/plain

FYI -- Greg

---

ALACRON SHARC-BASED DSP BOARDS YIELD HIGHER SCALABLE PERFORMANCE THAN
TRADITIONAL DESIGNS

http://www.alacron.com/tech1.htm

One of the most popular processors for high-level DSP and imaging
applications is the Analog Devices family of ADSP-2106x (SHARC) processors.
The SHARC(tm) 32-bit microprocessors are optimized for demanding DSP and
imaging applications.

However, the efficiency of a multi-SHARC design is critically dependent
upon system architecture, and architectures commonly employed in
multiprocessor SHARC designs do not take full advantage of the SHARC's
capabilities. To perform efficiently, a system's architecture must support
the parallel programming model that is best suited to a given application,
and provide sufficient memory bandwidth to permit the SHARC processors to
function as close to optimal as possible.

Alacron's architecture addresses the limitations imposed by standard
multi-SHARC architectures by employing a Dual Ported Local Memory (DPLM)
design.
Alacron's DPLM design permits easy implementation of the single- and
multiple-instruction set programming models, and provides all SHARC
processors with full memory bandwidth, without contention for global memory.

The result, full scalability of your applications, whether your design
calls for 2 SHARCs or  8 SHARCs -- all the way up to 24 SHARCs -- enabling
you to meet the demands of high-data bandwidth and high-performance
floating point applications, without the use of exotic memory architectures.

DPLM TO BE AVAILABLE FOR ADSP-21060

Originally developed for the ADSP-21060 (33Mhz) and ADSP-21062 (40MHz)
processors, Alacron's DPLM architecture is now being applied to Alacron's
newest families of DSP processor subsystems systems based upon Analog
Devices' new ADSP-21160 100MHz processors. These new processors will
provide developers with up to five times the performance per processor of
earlier models.

------------------------

Alacron develops and manufactures a full range of image capture and
scalable high-performance subsystems for image processing applications
including medical imaging, document processing and real-time inspection:

- Processor boards and fully integrated systems based upon several
  processor technologies.
- Digital and analog framegrabbers supporting multiple asynchronous or
  synchronous cameras with a variety of analog and digital interfaces.
- Specialized I/O interface boards for a broad range of networks and
  peripherals.

Each system is supported by Alacron's RT operating environment on a range
of operating systems including DOS, Solaris, VxWorks, Windows 95 and
Windows NT.

Alacron also supplies a full set of software tools, allowing you to develop
applications in ANSI C or FORTRAN: compilers, assemblers, linkers,
debuggers, profilers and other tools.

Hand-optimized image processing libraries provide hundreds of functions,
callable from C and FORTRAN:

- Real-Time Image Processing Library
- Vector Numerical Library
- Parallel Processing Library

For more details on Alacron's full line of products for your demanding DSP
and imaging applications, please visit us on the Web at
http://www.alacron.com/tech1.htm

Or call 603-891-2750 to discuss your application with an Alacron
applications engineer.

## 51. OLD HST modem

From: "Hamoperator SM7UGT Marcel bos" <sm1ugt@hotmail.com>
Date: Wed, 29 Jul 1998 08:47:53 PDT
To: dsp@tapr.org
Message-ID: <19980729154754.23376.qmail@hotmail.com>
Rendered body type: text/plain

How much can I reuse in the US Robotnics HST modem? (Has a
internal PCB fail)

There Is a 320x25 Signal processor - what can this processor
cope do preform?

_____
Get Your Private, Free Email at http://www.hotmail.com

## 52. Sound Card Programming in Windows 95

From: Phua Chee Teck <ECTPHUA@ntu.edu.sg>
Date: Fri, 31 Jul 1998 10:02:21 +0800
To: "'dsp@tapr.org'" <dsp@tapr.org>
Message-ID: <6665AC0C667ED11186E308002BB487E1021F0582@exchange2>
Rendered body type: text/plain

Hello,

I am thinking of using a 16 bit sound card to act as a Analogue to digital
convertor. Does anyone have any information on this? Can I use the windows
command to do it? That would mean that the software may be sound card
independent (for 16 bit). Am I right? Please comment on any ideals anyone
may have. Thanks.

Quite some time ago, there were some discussions on this. Can anyone please
help me in locating the web site available for these actions?

Thanks and Best Regards
Chee Teck

## 53. Re: [DSP:1066] Sound Card Programming in Windows 95

From: Doug Braun  <dbraun@scdt.intel.com>
Date: Thu, 30 Jul 1998 23:43:25 -0700
To: dsp@tapr.org
Cc: dbraun@scdt.intel.com
Message-ID: <199807310642.AA27543@scdt.intel.com>
Rendered body type: text/plain

If you get Microsoft's Visual C++ compiler and developement system,
it has the documentation for all the Windows 95 APIs for multimedia.
However, they are pretty confusing, and don't give you any example
programs to learn from.  But the student version of Visual C++is only $79 or
something like that.

Doug Braun

>Hello,
>
>I am thinking of using a 16 bit sound card to act as a Analogue to digital
>convertor. Does anyone have any information on this? Can I use the windows
>command to do it? That would mean that the software may be sound card
>independent (for 16 bit). Am I right? Please comment on any ideals anyone
>may have. Thanks.

## 54. Re: [DSP:1067] Re: Sound Card Programming in Windows 95

From: Marius.Hauki@datarespons.no (Marius Hauki)
Date: Fri, 31 Jul 1998 09:51:44 +0200
To: dsp@tapr.org
Message-ID: <35C1778F.189AD11B@datarespons.no>
Rendered body type: text/plain

We just did an app. for soundcards using Win95 API's.
The developers complained a lot about the bad doc. that MS
has given on this. I would advice a book on the subject if available.
If you are unexperienced in using Win API's you'll have a headace
using the API's for multimedia beacuse of the lack of good doc.

I am sorry that I can not give you any code. That is
company property.

73 de LA9EEA
Marius Hauki

Doug Braun wrote:

> If you get Microsoft's Visual C++ compiler and developement system,
> it has the documentation for all the Windows 95 APIs for multimedia.
> However, they are pretty confusing, and don't give you any example
> programs to learn from.  But the student version of Visual C++is only $79 or
> something like that.
>
> Doug Braun
>
> >Hello,
> >
> >I am thinking of using a 16 bit sound card to act as a Analogue to digital
> >convertor. Does anyone have any information on this? Can I use the windows
> >command to do it? That would mean that the software may be sound card
> >independent (for 16 bit). Am I right? Please comment on any ideals anyone
> >may have. Thanks.

## 55. Re: [DSP:1066] DSP digest 377

From: Alberto Di Bene <adibene@it.ibm.com>
Date: Fri, 31 Jul 1998 08:02:07 +0000
To: <dsp@tapr.org>
Message-ID: <5120020011310653000002L232*@MHS>
Rendered body type: text/plain

>I am thinking of using a 16 bit sound card to act as a Analogue to digital
>convertor. Does anyone have any information on this? Can I use the windows
>command to do it? That would mean that the software may be sound card
>independent (for 16 bit). Am I right? Please comment on any ideals anyone
>may have. Thanks.

The best thing you can do is to make yourself familiar with the routines
written by Ethan Brodsky for the SB family of sound cards. You cand find them
at the following URL:
         http://www.xraylith.wisc.edu/~ebrodsky/

I used one of them in my program Hamview, and they work !

Alberto di Bene, I2PHD

## 56. Re: [DSP:1068] Re: Sound Card Programming in Windows 95

From: Charles Brain <chbrain@dircon.co.uk>
Date: Fri, 31 Jul 1998 09:57:44 +0100
To: dsp@tapr.org
Message-ID: <35C18708.1CA7F06C@dircon.co.uk>
Rendered body type: text/plain

Marius Hauki wrote:
>
> We just did an app. for soundcards using Win95 API's.
> The developers complained a lot about the bad doc. that MS

> Doug Braun wrote:
>
> > If you get Microsoft's Visual C++ compiler and developement system,

Finally, something I am able to comment on!

I have used both VC++5 and the Sound API, The sound API like
everything Microsoft is in the process of changing, in that the
API functions I used waveIn and WaveOut are being deprecated in
favour of the Direct Sound commands.

The most difficult part of the API I encountered was the mixer
instructions (you need these if you want to change audio levels
or mute/unmute devices), these are the most card dependent of all the

API. Some cards provide features that other cards don't, like separate line
and speaker controls.

You will need to understand Callback functions and probably threads as
well. You have to be very careful which API functions you are call when
as they are not properly re-entrant.

Apart from that all the information is their albeit not easy to find.

If you need help try comp.os.ms-windows.programmer.multimedia or if
all else fails I will do my best to help.

- Charles G4GUO

## 57. RE: [DSP:1069] Re: DSP digest 377

From: Phua Chee Teck <ECTPHUA@ntu.edu.sg>
Date: Fri, 31 Jul 1998 17:05:14 +0800
To: "'dsp@tapr.org'" <dsp@tapr.org>
Message-ID: <6665AC0C667ED11186E308002BB487E1021F0588@exchange2>
Rendered body type: text/plain

Hello All,

Thanks to all that help on the Sound Card programming. The web site
mentioned below has a lot of information. Thanks a lot...especially to
Alberto who guided me there and Ethan Brodsky's Homepage.

Thanks and Best Regards,
Chee Teck

> ----------
> From:         Alberto Di Bene[SMTP:adibene@it.ibm.com]
> Reply To:     dsp@tapr.org
> Sent:         31 July 1998 01:04
> To:   dsp@tapr.org
> Subject:      [DSP:1069] Re: DSP digest 377
>
>
> >I am thinking of using a 16 bit sound card to act as a Analogue to
> digital
> >convertor. Does anyone have any information on this? Can I use the
> windows
> >command to do it? That would mean that the software may be sound card
> >independent (for 16 bit). Am I right? Please comment on any ideals anyone
> >may have. Thanks.
>
> The best thing you can do is to make yourself familiar with the routines
> written by Ethan Brodsky for the SB family of sound cards. You cand find
> them
> at the following URL:
>          http://www.xraylith.wisc.edu/~ebrodsky/
>
> I used one of them in my program Hamview, and they work !
>
> Alberto di Bene, I2PHD
>

## 58. Re: [DSP:1070] Re: Sound Card Programming in Windows 95

From: Doug Braun  <dbraun@scdt.intel.com>
Date: Fri, 31 Jul 1998 07:23:50 -0700
To: dsp@tapr.org
Cc: dbraun@scdt.intel.com
Message-ID: <199807311423.AA28347@scdt.intel.com>
Rendered body type: text/plain

The mixer API is the most confusing and most poorly documented
API that I have ever seen. I was able to get it to work on my
soundcard only after much trial and error. And after that,
somebody else tried my program with another soundcard, and it
didn't work correctly. :-(

Come to think of it, I do not recall ever seeing a program (game,
etc.) that touched the mixer. They all seem to assume that the
user will do it themselves with the utility that comes with
Windows.

Fortunately, the actual DAC and ADC access routines are not quite
so bad, and actually seem to work most of the time. I have not
checked out Direct Sound, but I think it would be a good idea to

take a look at its API before spending a lot of time messing with
the old one.

Doug

>Marius Hauki wrote:
>
>The most difficult part of the API I encountered was the mixer
>instructions (you need these if you want to change audio levels
>or mute/unmute devices), these are the most card dependent of all the
>API. Some cards provide features that other cards don't, like separate line
>and speaker controls.

# August 1998

Original source file: dsp.9808
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/dspsig/mail_archive/dsp.9808

## 1. Hamview 2.06

From: Alberto di Bene <dibene@usa.net>
Date: Sun, 02 Aug 1998 15:56:50 +0200
To: dsp@tapr.org, hfsig@tapr.org
Message-ID: <35C47021.1E8260D1@usa.net>
Rendered body type: text/plain

I have just uploaded V 2.06 of Hamview to the site:
http://www.freeyellow.com/members/padan

The reason for the new version is mainly a bug fix. When the environment variable
BLASTER was incorrectly set, the program did hang, instead of correctly emitting an
error message.

Enjoy,

Alberto, I2PHD

## 2. EVM56002 users in the Netherlands

From: Gerrit Polder <G.Polder@cpro.dlo.nl>
Date: Wed, 05 Aug 1998 09:41:37 +0200 (MET DST)
To: dsp@tapr.org
Message-ID: <199808050741.JAA00736@ganges.cpro.dlo.nl>
Rendered body type: text/plain

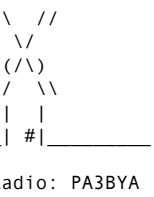
Are there any EVM56002 users in the Netherlands who like to order the
TAPR EVM56002 Interface boards and Enclosure Kit?

Maybe we can combine some orders to save on S&H costs.
please let me know.

Aan alle EVM56002 gebruikers in Nederland, wie heeft er belangstelling in
de TAPR EVM56002 Interface boards and Enclosure Kit, mogelijk kunnen we
door een groepbestelling de vrachtkosten wat drukken.

Gerrit.


From:  Gerrit Polder, CPRO-DLO
       P.O. Box 16
       6700 AA  Wageningen
       The Netherlands
Email: G.Polder@cpro.dlo.nl
WWW:   http://www.qsl.net/pa3bya
Phone: +31.317.476842
Fax:   +31.317.418094


HAM-Radio: PA3BYA


## 3. [DSP:1074] EVM56002 users in the Netherlands -Reply

From: Chuen Ming Tan <TANCMING@hitachi.com.my>
Date: Thu, 06 Aug 1998 08:09:47 +0800
To: dsp@tapr.org
Message-ID: <s5c964eb.097@gwsmtp.hisem.com>
Rendered body type: text/plain

No I am not from Netherlands but would like to know where you are
going to buy the EVM56002 from and how much it costs in US$.

Thanks,
M1BBH
CMTAN

## 4. [DSP:1075] DSP digest 381

From: Alberto Di Bene <adibene@it.ibm.com>
Date: Fri, 7 Aug 1998 08:06:16 +0000
To: dsp@tapr.org
Message-ID: <5120010013622531000002L112*@MHS>
Rendered body type: text/plain

Status Distribution August 06, 1998 07:56:10

The message regarding "[DSP:1075] DSP digest 381" sent on August 06, 1998 07:56:10 was sent by

Status Recipient
Type To
Native Name dsp@tapr.org
Foreign Native Name dsp@tapr.org\n\n\nINTERNET

Recipients

Status Reporters
Type From
Initials AD
Name Domain NOTES
Native Name CN=Alberto Di Bene/OU=Italy/O=IBM@IBMIT
Foreign Native Name CN=Alberto Di Bene/OU=Italy/O=IBM\nIBMIT\n\n
Organization IBM
Org Unit 1 Italy
Last Name Bene
First Name Alberto

Status 769
Explanation Invalid recipient

X.400 Status 769
Explanation Router: Unable to open mailbox file D14HUBM1/14/H/IBM mail.box: Server not responding

## 5. [DSP:1076] DSP digest 381 -Reply

From: Chuen Ming Tan <TANCMING@hitachi.com.my>
Date: Sat, 08 Aug 1998 16:42:39 +0800
To: dsp@tapr.org
Message-ID: <s5cc8010.059@gwsmtp.hisem.com>
Rendered body type: text/plain

I tried doing ima adpcm on a pc with a 16bit sound card. The input was 16bit with 16kHz sampling mono, recorded with microsoft window 95's sound recorder. The file obtained was then saved as wav format, and I consider this format as having the sampling data of the sound(that I input to my sound card), with some heading. Now, to compress this "raw" data, I used microchip's ima adpcm routine (app note 00643). Of course there were significant reduction, 4:1. And to see how well the original data was preserved, I decompressed it and played it with the sound recorder. The sound was very annoying with a lot noise. I could hardly pick up the recorded sound, but I am sure there was some tune embedded in a very noisy background. Can a low pass filter between the speaker and sound card help? What kind of lowpass filter? Any suggestions ...

Also, I 'd appreciate if someone could tell me if IMA has a webpage. The url www.ima.com is not correct, as listed in microchip's data sheet.

Thank you,
M1BBH

## 6. 1998 ARRL and TAPR Digital Communications Conference

From: "Greg Jones, WD5IVD" <wd5ivd@tapr.org>
Date: Sun, 9 Aug 1998 12:20:14 -0600
To: "TAPR-BB list mailing"<tapr-bb@tapr.org>
Cc: "HF SIG list mailing"<hfsig@tapr.org>, " Spread Spectrum "<ss@tapr.org>,
" TAPR/AMSAT DSP "<dsp@tapr.org>,
"APRS SIG list mailing"<aprssig@tapr.org>,
"NETSIG list mailing"<netsig@tapr.org>,
"BBS SIG list mailing"<bbssig@tapr.org>,
" tacgps "<tacgps@tapr.org>, aprsnews@tapr.org, mic-e@tapr.org,
TAPR Regional Freq <regional_freq@tapr.org>
Message-ID: <v04011707b1f39762e9cf@[168.191.230.109]>
Rendered body type: text/plain

1998 ARRL and TAPR Digital Communications Conference
September 25-27, 1998
Chicago, Illinois (minutes from O'Hare Airport)

Web: http://www.tapr.org/dcc

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The 1998 ARRL and TAPR Digital Communications Conference will be held September 25-27, 1998, in Chicago, Illinois. This year's conference location is the Holiday Inn Rolling Meadows, just minutes from O'Hare Airport.

Not only is the Digital Communications Conference technically stimulating, it is a weekend of fun for all who have more than a casual interest in any of the ham digital communications modes. This includes APRS operators, digital networks, software writers, modem designers, and digital satellite enthusiasts. The ARRL and TAPR Digital Communications Conference is for all levels of digital operators -- a must conference to attend to become active on a national level. Now, more than ever, amateur radio needs this great meeting of the minds because it is important that we demonstrate a continued need for the frequency allocations we have by pushing forward and documenting our achievements. The ARRL and TAPR Digital Communications Conference is one of the few ways to record our accomplishments and challenge each other to do more.

---

A Conference for the Beginner, Too

The conference is not just for the digital expert. This year's conference again provides multiple session tracks for beginning, intermediate, and advanced presentations on selected topics in digital communications. Topics will include APRS, satellite communications, TCP/IP, digital radio, Spread Spectrum, and many others. Come to the conference and hear these topics presented by the experts! Don't miss this opportunity to listen and talk to others in these areas.

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Symposia and Seminars

In addition to the presentation of papers on Saturday, three symposia/seminars will be held. These sessions are provided to allow those with additional time and interest to make the most of the Digital Communications Conference. For those who may have interest in just one symposium or seminar, registration for the conference is not required to attend these activities. This allows maximum flexibility for those who may want to participate during the Digital Communications Conference, but do not have an entire weekend to devote to the event.

The Second APRS National Symposium will be held on Friday and will be moderated by Steve Dimse, K4HG (the developer of javAPRS). It will likely include many APRS software authors, such as Bob Bruninga, WB4APR (the father of APRS), Keith Sproul, WU2Z, Mark Sproul, KB2ICI (the developers of MacAPRS and WinAPRS), Brent Hildebrand, KH2Z (the developer of APRSPLUS), and other nationally-known APRS leaders. Join this group for the afternoon and evening for in-depth discussions and presentations on the current and future status of APRS. This is a unique opportunity to gain insight into this fast-growing digital aspect of amateur operations that combines computers, packet radio, and GPS (Global Positioning System).

Starting late Friday afternoon, a half-day seminar titled "Infrastructureless Technologies in Amateur Radio," presented by Don Lemke, WB9MJN, will cover the pros and cons of DDMA (directivity division multiple access, a proposed infrastructureless technique) versus hubbed (cellular style) and other infrastructure dependent techniques, the basic problem of megabaud rate communications into the ham QTH, and some techniques for channel-area acquisition including full duplex/asynchronous versus simplex/synchronous radio/acquisition concepts. This seminar will start late enough on Friday afternoon to allow those flying that day to attend the seminar.

The Sunday morning seminar will be a combination of two different talks that will make one excellent seminar. The first presentation, by Lyle Johnson, WA7GXD, will focus on the upcoming RUDAK digital communications system scheduled to fly on the AMSAT Phase 3D satellite in the near future. Lyle will discuss features, systems design, integration, and experiments. The goal of the presentation is to zero in on the communications capabilities of RUDAK, the performance to be expected from the 153k6 PSK system, the limitations and capacities of the DSP modems, user requirements for receiving RUDAK, requirements for transmitting to RUDAK, and how amateurs can work to make ground operations a reality once the satellite is in operation. Information on how to submit a proposal for experimental time on RUDAK will be presented. The second presentation will be by Tim Shepard, KD1KY, regarding "Packet Radio Networks with Millions or Billions

of Stations." This talk will present concepts and materials that make you think about different possibilities of networking in the future. Both Lyle's and Tim's presentations focus on different aspects of future digital communications possibilities.

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Third Annual ARRL and TAPR DCC Student Papers Award

The deadline for the third annual ARRL and TAPR Student papers is past, please think about having students submit next year for the travel awards. TAPR and the ARRL especially welcome papers from full-time students to compete
for these student papers award. Two $500 travel awards may be given, one in each of the following categories: a) best technical/theory-oriented paper by a student, and b) best educational or community-oriented application paper by a student. The paper should relate directly to a wireless digital communication topic (see the guidelines for more information). Papers co-authored by educators or telecommunications professionals are also eligible for this award as long as a student is the first author. The deadline for receipt of finished student paper manuscript is June 20, 1999. Please note that this deadline is different from the general conference paper submission date. For full details and paper guidelines contact TAPR or browse to http://www.tapr.org/dcc.

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Call for Conference Proceeding Papers

Anyone interested in digital communications is invited to submit a paper for publication in the Conference Proceedings. Presentation at the conference is not required for publication. The primary purpose of the conference is to communicate ideas and techniques regarding digital communications. Papers written in an informal style are welcome, as well as those written to academic standards. If you know of someone who is doing great things with digital communications, be sure to tell them about this! Papers are due by August 15, 1998, and should be submitted to Maty Weinberg, ARRL, 225 Main Street, Newington, CT 06111, or via e-mail to lweinberg@arrl.org. The paper submission guidelines are available on-line (http://www.tapr.org/dcc).

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Local/International Co-Host

The 1998 ARRL and TAPR Digital Communications Conference will be co-hosted by Chicago Amateur Packet Radio Association (CAPRA). CAPRA is one of the oldest packet radio groups in the US. It focuses on education about amateur packet radio, coordination of joint efforts of hams interested in packet radio, and technical and equipment support for a sound packet network in the Chicago area. They have had high-speed packet networks operational since the mid-1980s. Visit the CAPRA Web site at http://www.imaxx.net/capra for more information.

PRUG (Packet Radio User Group of Japan) will be the first International co-host of the ARRL and TAPR Digital Communications Conference. The conference is proud to welcome PRUG as part of the conference. PRUG will be hosting an informal social Friday evening after the seminar and symposium are completed. Visit http://www.prug.or.jp for more information about the organization.

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What can you expect during the 1998 ARRL and TAPR Digital Communications Conference?

* A full day of papers, breakout sessions, and selected topics on Saturday for the beginner to advanced amateur digital enthusiast.

* Three seminars/symposia
  Friday (1 PM)
    - Second Annual APRS National Symposium,
      moderated by Steve Dimse, K4HG

  Friday (3 PM)
    - Infrastructure Technologies in Amateur Radio
      conducted by Don Lemke, WB9MJN

  Sunday (8:30 AM)

- RUDAK Future Operations and Experimentations
  by Lyle Johnson, WA7GXD
- Packet Radio Networks with Millions or Billions of Stations
  by Tim Shepard, KD1KY

* Third Annual Student Paper Awards.

* TAPR Membership Meeting

* A banquet with special guest speaker Steve Roberts, N4RVE, of Nomadic Research Labs. Creator of the Winnebiko and Behemoth high-tech recumbent bicycles. His current project is focused on Microship technology (http://www.microship.com/).

* SIGs (Special Interest Groups) get-togethers on Saturday, following the banquet

* Informal get-togethers throughout the weekend

* A facility that is perfect for this type of conference

* Informal engineering discussions/demonstration areas

* Motorola Museum located in the area.

* An event at which the most important new developments in amateur digital communications are announced

* Digital 'movers and shakers' from all over the world in attendance

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Conclusion

If you have attended a Digital Communications Conference in the past, remember how much fun it was discussing the latest developments into the wee hours! If you have never been to a Digital Communications Conference, then make your plans now to attend and find out how much fun they can be.

There are few activities where your participation can be so much fun and so important! You will be able to get together with colleagues from all over the world and bring each other up to date on your latest work. Experience all this and more for an unforgettable weekend of ham radio and digital communications. Make your travel and lodging arrangements now. We hope to see you at the ARRL and TAPR Digital Communications Conference, September 25-27!

Full information on the conference and hotel information can be obtained by contacting Tucson Amateur Packet Radio, 8987-309 E. Tanque Verde Road #337, Tucson, AZ 85749-9399, phone 940-383-0000, fax 940-566-2544, e-mail tapr@tapr.org, browse www.tapr.org/dcc.

Sincerely,

Steve Ford, WB8IMY, ARRL Conference Co-Chair
Greg Jones, WD5IVD, TAPR Conference Co-Chair
Steve Stroh, N8GNJ, Conference Manager
Mark J. Thompson, WB9QZB, Local Host Liaison
Carl Bergstedt, K9VXW, Local Host Liaison

Note: If you need conference handouts or flyers for ham club meetings, contact TAPR to get what you need!

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Hotel Information

Conference presentations, meetings, and seminars will be held at the Holiday Inn Rolling Meadows. Special DCC rooms rates are $85 per night. When making reservations with the hotel, be sure to indicate you are attending the ARRL and TAPR DCC in order to get the discount. It is highly recommended that you book your room prior to arriving. A block of 75 rooms is reserved until August 31, 1998. After the 75 rooms are booked, rooms will only be available in nearby hotels, so be sure to book your rooms early! The hotel provides transportation to and from O'Hare Airport. Please contact the hotel to arrange specific transportation needs.

Holiday Inn Rolling Meadows (conference hotel)
3405 Algonquin Rd

```
   Rolling Meadows, IL 60008
   Phone 847-259-5000, fax 847-259-0597

--------------------------------------------------------------------------
Tucson Amateur Packet Radio
8987-309 E Tanque Verde Rd #337 * Tucson, Az * 85749-9399
--------------------------------------------------------------------------
e-mail: tapr@tapr.org       web: <http://www.tapr.org/>
ftp:    ftp.tapr.org
phone:  940-383-0000        fax: 940-565-2544
--------------------------------------------------------------------------
```

## 7. [DSP:1078] DSP digest 384

```
From: Alberto Di Bene <adibene@it.ibm.com>
Date: Mon, 10 Aug 1998 18:07:05 +0000
To: dsp@tapr.org
Message-ID: <512001001375516500000 2L152*@MHS>
Rendered body type: text/plain

Status Distribution August 09, 1998 18:04:44

The message regarding "[DSP:1078] DSP digest 384" sent on August 09, 1998 18:04:44 was sent by

Status Recipient
          Type                To
          Native Name         dsp@tapr.org
          Foreign Native Name dsp@tapr.org\n\n\nINTERNET



Recipients

Status Reporters
          Type                From
          Initials            AD
          Name Domain         NOTES
          Native Name         CN=Alberto Di Bene/OU=Italy/O=IBM@IBMIT
          Foreign Native Name CN=Alberto Di Bene/OU=Italy/O=IBM\nIBMIT\n\n
          Organization        IBM
          Org Unit 1          Italy
          Last Name           Bene
          First Name          Alberto



Status          769
Explanation     Invalid recipient

X.400 Status    769
Explanation     Router: Unable to open mailbox file D14HUBM1/14/H/IBM mail.box: Remote system no longer
responding
```

## 8. View Amazing World Record Sex!!!

```
From: knowit98@hotmail.com
Date: Mon, 10 Aug 1998 21:45:58 -0400 (EDT)
Message-ID: <QQfbxf25868.199808110145@relay3.UU.NET>
Rendered body type: text/plain

Attention!
Warning! Adults Only!                    Warning! Adults
Only!

If you are under 21 years of age, or not interested in sexually explicit material...
please hit your keyboard delete button now
and please excuse the intrusion. To REMOVE your name from our
email list send us email with REMOVE in the subject line.
You need not read any further!


Available NOW for only $9.95!  Next 10 Days Only!

WORLD RECORD SEX!

Be There!  See It Now On Video!  Unbelievable ...But True!

You Won't Believe Your Eyes!!!  [As Seen on the Howard Stern Show]

"The World's Biggest Gang Bang"
```

See sexy  Annabel Chong as she sets the world Gang Bang Record
in this fantastic video documentary that chronicles her 24 hour
sexathon with 251 men engaging in sexual intercourse and oral
sex with her!  Don't worry, you won't have to stay up 24 hours
to watch it all.  We've selected only the most exciting and red
hot scenes for you...all in breathtaking living color with plenty of
extreme close-ups!  This video is guaranteed to knock your socks
off and leave you breathless!  You've never seen anything like it!
Annabel takes on five men at a time!  90 minutes! Order Today!
Only $9.95 plus $3 shipping and handling [Total $12.95].


"GANG BANG II"
The Record Breaker!!!  Starring Jasmin St. Claire!

See Beautiful and Voluptious Jasmin St. Claire shatter Annabel's
gang bang record by taking on 300 men in one 24 hour sex session!
You won't believe your eyes at all the hot firey action that you will
see as the new world record is established before your eyes as
Jasmin  takes on five men at a time for sexual intercourse and
oral sex!  Your friends will break down your door to see this video!
You'll be the most popular guy in town!  The action is truly unreal
and you will see the best of it in living life-like color!  Order Today
and see Jasmin break the record!  90 minutes.  Only $9.95 plus
$3 shipping and handling [total $12.95].

Also Available...

The Uncensored Authentic Underground...
Pamela Anderson Lee & Tommy Lee
Sex Video Tape!

Everyone is talking about this exciting video!  See Pam and
Tommy engaging in sexual intercourse and oral sex in the car,
on the boat and much, much more!  A  real collectors video! 30 minutes.
Only $9.95 plus $3 shipping and Handling [total $12.95]

"Tonya Harding Wedding Night Sex Video"
Now see the beautiful Ice Skating Shame of the Olympics
Tonya Harding engaging in sexual intercourse and oral
sex on her wedding night with husband Jeff Gillooly!
This "Bad Girl" is Hot!  Don't miss this video! 30 minutes.
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"Traci...I Love You"  Starring Traci Lords
Now see the most beautiful and popular porn star in her last
adult video before she hit the big time!  It's the blockbuster of
the year...sensual...fiery and exposive!  Traci Lords in her most
erotic and controversial film ever!  Don't Miss It!  90 minutes.
Only $9.95 plus $3 shipping and handling [total $12.95]

EMAIL SPECIAL!

ORDER ANY FOUR VIDEOS AND GET THE FIFTH ONE FREE!!!

Your order will be shipped via First Class Mail. All Shipments in plain unmarked wrapper.
For Priority Mail - Add $5
For Overnight Express - add $15

You can order by Phone, Fax, Mail or Email.

We accept all Major Credit Cards and checks by phone or fax.
Visa - MasterCard - American Express - Discover

10 Day Money Back Guarantee!  We know that you will be pleased with these Videos!

To Email your order - DO NOT HIT REPLY ON YOUR KEYBOARD

Send email to our special email address below:

infoplus467@juno.com

[Note: If you order by email and do not receive an email acknowledgement within 24 hours, please phone
our office at
718-287-3800]

Phone our office 9am to 10 pm [eastern time]

[718] 287-3800 to Order By Phone for FASTEST SERVICE!

We can accept your credit card or check by phone

Fax Your Order 24 hours per day to [718] 462-5920
You can fax your credit card information or your check

Order by mail by sending $12.95 per video, cash, check, money order or major credit card [Visa, MasterCard, American Express or Discover] to

TCPS, INC.
4718 18th Ave. Suite 135
Brooklyn, NY 11204

Make Checks & Money Orders Payable to TCPS, Inc.
New York State Residents Please Add 85 cents for Sales Tax per Video!

You must be over 21 years of age to order and give us your date of birth with your order!

The Following Order Form is for Your Convenience!

.....

Please ship me the following video tape[s]!

Qty_____Annabel Chong "World's Biggest Gang Bang"

Qty_____"Gang Bang II" Jasmin St. Claire

Qty_____"Pamela & Tommy Lee Sex Video Tape"

Qty_____ "Tonya Harding Wedding Night Sex Video Tape"

Qty_____"Traci I Love You" Traci Lords

at $9.95 each plus $3.00 for shipping and handling per tape
[$12.95 per video or "SPECIAL $51.80 for ALL FIVE"!

Credit Card #_____Exp Date___

I hereby represent that I am over 21 years of age.
My date of birth is_____

Signature_____

Ship to: Name_____

Address_____

City_____State_____Zip_____

Area Code and Home Phone [ ]_____

Fax # [ ]_____

Email Address_____

To remove your name from our mailing list, send us an email with
remove in the subject line. This is a one time offer and you should not hear from us again!

FOREIGN ORDERS -Add $15us if you desire Air Parcel Post Shipment. We ship all over the world.

By deleting your unwanted E-Mail you waste one keystroke, yet
by throwing away paper mail you waste our planet! SAVE THE
TREES and support internet E-Mail instead of paper mail!

[C] Copyright TCPS 1998

## 9. remove

From: "Nathan Sykes" <nsykes@bellsouth.net>
Date: Mon, 10 Aug 1998 23:51:21 -0500
To: <dsp@tapr.org>
Message-ID: <000b01bdc4e3$b0794600$2170d6d1@kd4ghg>
Rendered body type: text/plain

-----Original Message-----
From: knowit98@hotmail.com <knowit98@hotmail.com>
To: dsp@tapr.org <dsp@tapr.org>
Date: Monday, August 10, 1998 9:31 PM
Subject: [DSP:1080] View Amazing World Record Sex!!!

>Attention!
>Warning! Adults Only!                    Warning! Adults
Only!
>
>If you are under 21 years of age, or not interested in sexually explicit
material...
>please hit your keyboard delete button now
>and please excuse the intrusion. To REMOVE your name from our
>email list send us email with REMOVE in the subject line.
>You need not read any further!
>
>
>Available NOW for only $9.95!  Next 10 Days Only!
>
>WORLD RECORD SEX!
>
>Be There!  See It Now On Video!  Unbelievable ...But True!
>
>You Won't Believe Your Eyes!!!  [As Seen on the Howard Stern Show]
>
>"The World's Biggest Gang Bang"
>
>See sexy  Annabel Chong as she sets the world Gang Bang Record
>in this fantastic video documentary that chronicles her 24 hour
>sexathon with 251 men engaging in sexual intercourse and oral
>sex with her!  Don't worry, you won't have to stay up 24 hours
>to watch it all.  We've selected only the most exciting and red
>hot scenes for you...all in breathtaking living color with plenty of
>extreme close-ups!  This video is guaranteed to knock your socks
>off and leave you breathless!  You've never seen anything like it!
>Annabel takes on five men at a time!  90 minutes! Order Today!
>Only $9.95 plus $3 shipping and handling [Total $12.95].
>
>
>"GANG BANG II"
>The Record Breaker!!!  Starring Jasmin St. Claire!
>
>See Beautiful and Voluptious Jasmin St. Claire shatter Annabel's
>gang bang record by taking on 300 men in one 24 hour sex session!
>You won't believe your eyes at all the hot firey action that you will
>see as the new world record is established before your eyes as
>Jasmin  takes on five men at a time for sexual intercourse and
>oral sex!  Your friends will break down your door to see this video!
>You'll be the most popular guy in town!  The action is truly unreal
>and you will see the best of it in living life-like color!  Order Today
>and see Jasmin break the record!  90 minutes.  Only $9.95 plus
>$3 shipping and handling [total $12.95].
>
>Also Available...
>
>The Uncensored Authentic Underground...
>Pamela Anderson Lee & Tommy Lee
>Sex Video Tape!
>
>Everyone is talking about this exciting video!  See Pam and
>Tommy engaging in sexual intercourse and oral sex in the car,
>on the boat and much, much more!  A  real collectors video! 30 minutes.
>Only $9.95 plus $3 shipping and Handling [total $12.95]
>
>"Tonya Harding Wedding Night Sex Video"
>Now see the beautiful Ice Skating Shame of the Olympics
>Tonya Harding engaging in sexual intercourse and oral
>sex on her wedding night with husband Jeff Gillooly!
>This "Bad Girl" is Hot!  Don't miss this video! 30 minutes.
>Only $9.95 plus $3 shipping and handling [total $12.95]
>
>"Traci...I Love You"  Starring Traci Lords
>Now see the most beautiful and popular porn star in her last
>adult video before she hit the big time!  It's the blockbuster of
>the year...sensual...fiery and exposive!  Traci Lords in her most
>erotic and controversial film ever!  Don't Miss It!  90 minutes.
>Only $9.95 plus $3 shipping and handling [total $12.95]

>
>EMAIL SPECIAL!
>
>ORDER ANY FOUR VIDEOS AND GET THE FIFTH ONE FREE!!!
>
>Your order will be shipped via First Class Mail. All Shipments in plain
unmarked wrapper.
>For Priority Mail - Add $5
>For Overnight Express - add $15
>
>You can order by Phone, Fax, Mail or Email.
>
>We accept all Major Credit Cards and checks by phone or fax.
>Visa - MasterCard - American Express - Discover
>
>10 Day Money Back Guarantee!  We know that you will be pleased with these
Videos!
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>To Email your order - DO NOT HIT REPLY ON YOUR KEYBOARD
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>Send email to our special email address below:
>
>infoplus467@juno.com
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>[Note: If you order by email and do not receive an email acknowledgement
within 24 hours, please phone our office at
>718-287-3800]
>
>Phone our office 9am to 10 pm [eastern time]
>
>[718] 287-3800 to Order By Phone for FASTEST SERVICE!
>
> We can accept your credit card or check by phone
>
>Fax Your Order 24 hours per day  to  [718] 462-5920
>You can fax your credit card information or your check
>
>Order by mail by sending $12.95 per video,  cash, check, money order or
major credit card [Visa, MasterCard, American Express or Discover] to
>
>TCPS, INC.
>4718  18th Ave.  Suite 135
>Brooklyn, NY 11204
>
>Make Checks & Money Orders Payable to TCPS, Inc.
>New York State Residents Please Add 85 cents for Sales Tax per Video!
>
>You must be over 21 years of age to order and give us your date of birth
with your order!
>
>The Following Order Form is for Your Convenience!
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>
>Please ship me the following video tape[s]!
>
>Qty_____Annabel Chong "World's Biggest Gang Bang"
>
>Qty_____"Gang Bang II" Jasmin St. Claire
>
>Qty_____"Pamela & Tommy Lee Sex Video Tape"
>
>Qty_____   "Tonya Harding Wedding Night Sex Video Tape"
>
>Qty_____"Traci I Love You" Traci Lords
>
>at $9.95 each plus $3.00 for shipping and handling per tape
>[$12.95 per video or "SPECIAL $51.80 for ALL FIVE"!
>
>Credit Card #_____Exp Date___
>
>I hereby represent that I am over 21 years of age.
>My date of birth is_____
>
>Signature_____

>
>Ship to:  Name_______________________________________
>
>Address____________________________________________
>
>City________________________State___________Zip________
>
>Area Code and Home Phone  [    ]___________________________
>
>Fax # [     ]______________________________________________
>
>Email Address___________________________________________
>
>To remove your name from our mailing list, send us an email with
>remove in the subject line.  This is a one time offer and you should not
hear from us again!
>
>FOREIGN ORDERS -Add $15us if you desire Air Parcel Post Shipment.  We ship
all over the world.
>
>By deleting your unwanted E-Mail you waste one keystroke, yet
>by throwing away paper mail you waste our planet!  SAVE THE
>TREES and support internet E-Mail instead of paper mail!
>
>[C] Copyright TCPS 1998
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## 10. Re: [DSP:1080] View Amazing World Record Sex!!!

From: kb7qlh@juno.com (Richard L Homer)
Date: Tue, 11 Aug 1998 09:32:56 EDT
To: dsp@tapr.org
Cc: dsp@tapr.org
Message-ID: <19980811.061555.4391.1.kb7qlh@juno.com>
Rendered body type: text/plain

REMOVE

Richard L. Homer RR 140       52H   KB7QLH
1576 North Orante Road
Tombstone, Az 85638-6120
kb7qlh@juno.com  (H) rhomer@tombstonepl.lib.az.us (W)

On Mon, 10 Aug 1998 20:53:56 -0500 (CDT) knowit98@hotmail.com writes:
>Attention!
>Warning! Adults Only!                    Warning! Adults
>                                Only!
>
>If you are under 21 years of age, or not interested in sexually
>explicit material...
>please hit your keyboard delete button now
>and please excuse the intrusion. To REMOVE your name from our
>email list send us email with REMOVE in the subject line.
>You need not read any further!
>
>
>Available NOW for only $9.95!  Next 10 Days Only!
>
>WORLD RECORD SEX!
>
>Be There!  See It Now On Video!  Unbelievable ...But True!
>
>You Won't Believe Your Eyes!!!  [As Seen on the Howard Stern Show]
>
>"The World's Biggest Gang Bang"
>
>See sexy  Annabel Chong as she sets the world Gang Bang Record
>in this fantastic video documentary that chronicles her 24 hour
>sexathon with 251 men engaging in sexual intercourse and oral
>sex with her!  Don't worry, you won't have to stay up 24 hours
>to watch it all.  We've selected only the most exciting and red
>hot scenes for you...all in breathtaking living color with plenty of
>extreme close-ups!  This video is guaranteed to knock your socks

>off and leave you breathless!  You've never seen anything like it!
>Annabel takes on five men at a time!  90 minutes! Order Today!
>Only $9.95 plus $3 shipping and handling [Total $12.95].
>
>
>"GANG BANG II"
>The Record Breaker!!!  Starring Jasmin St. Claire!
>
>See Beautiful and Voluptious Jasmin St. Claire shatter Annabel's
>gang bang record by taking on 300 men in one 24 hour sex session!
>You won't believe your eyes at all the hot firey action that you will
>see as the new world record is established before your eyes as
>Jasmin  takes on five men at a time for sexual intercourse and
>oral sex!  Your friends will break down your door to see this video!
>You'll be the most popular guy in town!  The action is truly unreal
>and you will see the best of it in living life-like color!  Order
>Today
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>$3 shipping and handling [total $12.95].
>
>Also Available...
>
>The Uncensored Authentic Underground...
>Pamela Anderson Lee & Tommy Lee
>Sex Video Tape!
>
>Everyone is talking about this exciting video!  See Pam and
>Tommy engaging in sexual intercourse and oral sex in the car,
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>minutes.
>Only $9.95 plus $3 shipping and Handling [total $12.95]
>
>"Tonya Harding Wedding Night Sex Video"
>Now see the beautiful Ice Skating Shame of the Olympics
>Tonya Harding engaging in sexual intercourse and oral
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>This "Bad Girl" is Hot!  Don't miss this video! 30 minutes.
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>Now see the most beautiful and popular porn star in her last
>adult video before she hit the big time!  It's the blockbuster of
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>erotic and controversial film ever!  Don't Miss It!  90 minutes.
>Only $9.95 plus $3 shipping and handling [total $12.95]
>
>EMAIL SPECIAL!
>
>ORDER ANY FOUR VIDEOS AND GET THE FIFTH ONE FREE!!!
>
>Your order will be shipped via First Class Mail. All Shipments in
>plain unmarked wrapper.
>For Priority Mail - Add $5
>For Overnight Express - add $15
>
>You can order by Phone, Fax, Mail or Email.
>
>We accept all Major Credit Cards and checks by phone or fax.
>Visa - MasterCard - American Express - Discover
>
>10 Day Money Back Guarantee!  We know that you will be pleased with
>these Videos!
>
>To Email your order - DO NOT HIT REPLY ON YOUR KEYBOARD
>
>Send email to our special email address below:
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>infoplus467@juno.com
>
>[Note: If you order by email and do not receive an email
>acknowledgement within 24 hours, please phone our office at
>718-287-3800]
>
>Phone our office 9am to 10 pm [eastern time]
>
>[718] 287-3800 to Order By Phone for FASTEST SERVICE!
>
> We can accept your credit card or check by phone
>

>Fax Your Order 24 hours per day  to  [718] 462-5920
>You can fax your credit card information or your check
>
>Order by mail by sending $12.95 per video,  cash, check, money order
>or major credit card [Visa, MasterCard, American Express or Discover]
>to
>
>TCPS, INC.
>4718  18th Ave.  Suite 135
>Brooklyn, NY 11204
>
>Make Checks & Money Orders Payable to TCPS, Inc.
>New York State Residents Please Add 85 cents for Sales Tax per Video!
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>You must be over 21 years of age to order and give us your date of
>birth with your order!
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>The Following Order Form is for Your Convenience!
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>Please ship me the following video tape[s]!
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>Qty_____Annabel Chong "World's Biggest Gang Bang"
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>Qty_____"Gang Bang II" Jasmin St. Claire
>
>Qty_____"Pamela & Tommy Lee Sex Video Tape"
>
>Qty_____   "Tonya Harding Wedding Night Sex Video Tape"
>
>Qty_____"Traci I Love You" Traci Lords
>
>at $9.95 each plus $3.00 for shipping and handling per tape
>[$12.95 per video or "SPECIAL $51.80 for ALL FIVE"!
>
>Credit Card #_____Exp Date___
>
>I hereby represent that I am over 21 years of age.
>My date of birth is_____
>
>Signature_____
>
>Ship to:  Name_____
>
>Address_____
>
>City_____State_____Zip_____
>
>Area Code and Home Phone  [    ]_____
>
>Fax # [     ]_____
>
>Email Address_____
>
>To remove your name from our mailing list, send us an email with
>remove in the subject line.  This is a one time offer and you should
>not hear from us again!
>
>FOREIGN ORDERS -Add $15us if you desire Air Parcel Post Shipment.  We
>ship all over the world.
>
>By deleting your unwanted E-Mail you waste one keystroke, yet
>by throwing away paper mail you waste our planet!  SAVE THE
>TREES and support internet E-Mail instead of paper mail!
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>[C] Copyright TCPS 1998
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You don't need to buy Internet access to use free Internet e-mail.
Get completely free e-mail from Juno at http://www.juno.com
Or call Juno at (800) 654-JUNO [654-5866]

## 11. Re: [DSP:1081] remove

From: "Gary Hauge" <g_hauge@email.msn.com>
Date: Tue, 11 Aug 1998 14:48:53 -0400
To: <dsp@tapr.org>
Message-ID: <000601bdc558$b17264e0$04000005@canaveral>
Rendered body type: text/plain

REMOVE!
-----Original Message-----
From: Nathan Sykes <nsykes@bellsouth.net>
To: dsp@tapr.org <dsp@tapr.org>
Date: Tuesday, August 11, 1998 1:13 AM
Subject: [DSP:1081] remove

>
>-----Original Message-----
>From: knowit98@hotmail.com <knowit98@hotmail.com>
>To: dsp@tapr.org <dsp@tapr.org>
>Date: Monday, August 10, 1998 9:31 PM
>Subject: [DSP:1080] View Amazing World Record Sex!!!
>
>
>>Attention!
>>Warning! Adults Only!                    Warning! Adults
>Only!
>>
>>If you are under 21 years of age, or not interested in sexually explicit
>material...
>>please hit your keyboard delete button now
>>and please excuse the intrusion. To REMOVE your name from our
>>email list send us email with REMOVE in the subject line.
>>You need not read any further!
>>
>>
>>Available NOW for only $9.95!  Next 10 Days Only!
>>
>>WORLD RECORD SEX!
>>
>>Be There!  See It Now On Video!  Unbelievable ...But True!
>>
>>You Won't Believe Your Eyes!!!  [As Seen on the Howard Stern Show]
>>
>>"The World's Biggest Gang Bang"
>>
>>See sexy  Annabel Chong as she sets the world Gang Bang Record
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>>sex with her!  Don't worry, you won't have to stay up 24 hours
>>to watch it all.  We've selected only the most exciting and red
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>>Annabel takes on five men at a time!  90 minutes! Order Today!
>>Only $9.95 plus $3 shipping and handling [Total $12.95].
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>>"GANG BANG II"
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>>Also Available...
>>
>>The Uncensored Authentic Underground...

>>Pamela Anderson Lee & Tommy Lee
>>Sex Video Tape!
>>
>>Everyone is talking about this exciting video!  See Pam and
>>Tommy engaging in sexual intercourse and oral sex in the car,
>>on the boat and much, much more!  A  real collectors video! 30 minutes.
>>Only $9.95 plus $3 shipping and Handling [total $12.95]
>>
>>"Tonya Harding Wedding Night Sex Video"
>>Now see the beautiful Ice Skating Shame of the Olympics
>>Tonya Harding engaging in sexual intercourse and oral
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>>This "Bad Girl" is Hot!  Don't miss this video! 30 minutes.
>>Only $9.95 plus $3 shipping and handling [total $12.95]
>>
>>"Traci...I Love You"  Starring Traci Lords
>>Now see the most beautiful and popular porn star in her last
>>adult video before she hit the big time!  It's the blockbuster of
>>the year...sensual...fiery and exposive!  Traci Lords in her most
>>erotic and controversial film ever!  Don't Miss It!  90 minutes.
>>Only $9.95 plus $3 shipping and handling [total $12.95]
>>
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>>
>>ORDER ANY FOUR VIDEOS AND GET THE FIFTH ONE FREE!!!
>>
>>Your order will be shipped via First Class Mail. All Shipments in plain
>unmarked wrapper.
>>For Priority Mail - Add $5
>>For Overnight Express - add $15
>>
>>You can order by Phone, Fax, Mail or Email.
>>
>>We accept all Major Credit Cards and checks by phone or fax.
>>Visa - MasterCard - American Express - Discover
>>
>>10 Day Money Back Guarantee!  We know that you will be pleased with these
>Videos!
>>
>>To Email your order - DO NOT HIT REPLY ON YOUR KEYBOARD
>>
>>Send email to our special email address below:
>>
>>infoplus467@juno.com
>>
>>[Note: If you order by email and do not receive an email acknowledgement
>within 24 hours, please phone our office at
>>718-287-3800]
>>
>>Phone our office 9am to 10 pm [eastern time]
>>
>>[718] 287-3800 to Order By Phone for FASTEST SERVICE!
>>
>> We can accept your credit card or check by phone
>>
>>Fax Your Order 24 hours per day  to  [718] 462-5920
>>You can fax your credit card information or your check
>>
>>Order by mail by sending $12.95 per video,  cash, check, money order or
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>>
>>TCPS, INC.
>>4718  18th Ave.  Suite 135
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>>
>>Make Checks & Money Orders Payable to TCPS, Inc.
>>New York State Residents Please Add 85 cents for Sales Tax per Video!
>>
>>You must be over 21 years of age to order and give us your date of birth
>with your order!
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>>The Following Order Form is for Your Convenience!
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>>
>>Please ship me the following video tape[s]!
>>
>>Qty___________Annabel Chong "World's Biggest Gang Bang"
>>
>>Qty__________"Gang Bang II" Jasmin St. Claire
>>
>>Qty___________"Pamela & Tommy Lee Sex Video Tape"
>>
>>Qty_________   "Tonya Harding Wedding Night Sex Video Tape"
>>
>>Qty__________"Traci I Love You" Traci Lords
>>
>>at $9.95 each plus $3.00 for shipping and handling per tape
>>[$12.95 per video or "SPECIAL $51.80 for ALL FIVE"!
>>
>>Credit Card #______________________________Exp Date___
>>
>>I hereby represent that I am over 21 years of age.
>>My date of birth is_________________________________
>>
>>Signature______________________________________________
>>
>>Ship to:  Name_______________________________________
>>
>>Address____________________________________________
>>
>>City________________________State___________Zip________
>>
>>Area Code and Home Phone  [    ]___________________________
>>
>>Fax # [     ]______________________________________________
>>
>>Email Address___________________________________________
>>
>>To remove your name from our mailing list, send us an email with
>>remove in the subject line.  This is a one time offer and you should not
>hear from us again!
>>
>>FOREIGN ORDERS -Add $15us if you desire Air Parcel Post Shipment.  We ship
>all over the world.
>>
>>By deleting your unwanted E-Mail you waste one keystroke, yet
>>by throwing away paper mail you waste our planet!  SAVE THE
>>TREES and support internet E-Mail instead of paper mail!
>>
>>[C] Copyright TCPS 1998
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## 12. Re: remove

From: "Gary Hauge" <g_hauge@email.msn.com>
Date: Tue, 11 Aug 1998 14:50:01 -0400
To: <dsp@tapr.org>
Message-ID: <000d01bdc558$d9cfa560$04000005@canaveral>
Rendered body type: text/plain

REMOVE!
-----Original Message-----
From: dsp@tapr.org <dsp@tapr.org>
To: g_hauge@email.msn.com <g_hauge@email.msn.com>
Date: Tuesday, August 11, 1998 10:54 AM
Subject: Error Condition Re: Re: [DSP:1081] remove

>
>We are sorry, but this system sensed the following request which may have
been
>inadvertedly sent to this list:
>
>GET MY ADDRESS OFF THIS CRAP!
>

>If your posting was intentional, please accept our apologies and resend
your
>mail message, making sure you do not include anything that may look like a
>request in the first line of the body of the actual message. If this was
>indeed a request please resend it to listproc@tapr.org
>Your entire message
>is copied below.
>
>--------------------------------------------------------------------------
----
>Get my address off this crap!
>-----Original Message-----
>From: Nathan Sykes <nsykes@bellsouth.net>
>To: dsp@tapr.org <dsp@tapr.org>
>Date: Tuesday, August 11, 1998 1:13 AM
>Subject: [DSP:1081] remove
>
>
>>
>>-----Original Message-----
>>From: knowit98@hotmail.com <knowit98@hotmail.com>
>>To: dsp@tapr.org <dsp@tapr.org>
>>Date: Monday, August 10, 1998 9:31 PM
>>Subject: [DSP:1080] View Amazing World Record Sex!!!
>>
>>
>>>Attention!
>>>Warning! Adults Only!                    Warning! Adults
>>Only!
>>>
>>>If you are under 21 years of age, or not interested in sexually explicit
>>material...
>>>please hit your keyboard delete button now
>>>and please excuse the intrusion. To REMOVE your name from our
>>>email list send us email with REMOVE in the subject line.
>>>You need not read any further!
>>>
>>>
>>>Available NOW for only $9.95!  Next 10 Days Only!
>>>
>>>WORLD RECORD SEX!
>>>
>>>Be There!  See It Now On Video!  Unbelievable ...But True!
>>>
>>>You Won't Believe Your Eyes!!!  [As Seen on the Howard Stern Show]
>>>
>>>"The World's Biggest Gang Bang"
>>>
>>>See sexy  Annabel Chong as she sets the world Gang Bang Record
>>>in this fantastic video documentary that chronicles her 24 hour
>>>sexathon with 251 men engaging in sexual intercourse and oral
>>>sex with her!  Don't worry, you won't have to stay up 24 hours
>>>to watch it all.  We've selected only the most exciting and red
>>>hot scenes for you...all in breathtaking living color with plenty of
>>>extreme close-ups!  This video is guaranteed to knock your socks
>>>off and leave you breathless!  You've never seen anything like it!
>>>Annabel takes on five men at a time!  90 minutes! Order Today!
>>>Only $9.95 plus $3 shipping and handling [Total $12.95].
>>>
>>>
>>>"GANG BANG II"
>>>The Record Breaker!!!  Starring Jasmin St. Claire!
>>>
>>>See Beautiful and Voluptious Jasmin St. Claire shatter Annabel's
>>>gang bang record by taking on 300 men in one 24 hour sex session!
>>>You won't believe your eyes at all the hot firey action that you will
>>>see as the new world record is established before your eyes as
>>>Jasmin  takes on five men at a time for sexual intercourse and
>>>oral sex!  Your friends will break down your door to see this video!
>>>You'll be the most popular guy in town!  The action is truly unreal
>>>and you will see the best of it in living life-like color!  Order Today
>>>and see Jasmin break the record!  90 minutes.  Only $9.95 plus
>>>$3 shipping and handling [total $12.95].
>>>
>>>Also Available...
>>>
>>>The Uncensored Authentic Underground...
>>>Pamela Anderson Lee & Tommy Lee
>>>Sex Video Tape!

>>>
>>>Everyone is talking about this exciting video!  See Pam and
>>>Tommy engaging in sexual intercourse and oral sex in the car,
>>>on the boat and much, much more!  A  real collectors video! 30 minutes.
>>>Only $9.95 plus $3 shipping and Handling [total $12.95]
>>>
>>>"Tonya Harding Wedding Night Sex Video"
>>>Now see the beautiful Ice Skating Shame of the Olympics
>>>Tonya Harding engaging in sexual intercourse and oral
>>>sex on her wedding night with husband Jeff Gillooly!
>>>This "Bad Girl" is Hot!  Don't miss this video! 30 minutes.
>>>Only $9.95 plus $3 shipping and handling [total $12.95]
>>>
>>>"Traci...I Love You"  Starring Traci Lords
>>>Now see the most beautiful and popular porn star in her last
>>>adult video before she hit the big time!  It's the blockbuster of
>>>the year...sensual...fiery and exposive!  Traci Lords in her most
>>>erotic and controversial film ever!  Don't Miss It!  90 minutes.
>>>Only $9.95 plus $3 shipping and handling [total $12.95]
>>>
>>>EMAIL SPECIAL!
>>>
>>>ORDER ANY FOUR VIDEOS AND GET THE FIFTH ONE FREE!!!
>>>
>>>Your order will be shipped via First Class Mail. All Shipments in plain
>>unmarked wrapper.
>>>For Priority Mail - Add $5
>>>For Overnight Express - add $15
>>>
>>>You can order by Phone, Fax, Mail or Email.
>>>
>>>We accept all Major Credit Cards and checks by phone or fax.
>>>Visa - MasterCard - American Express - Discover
>>>
>>>10 Day Money Back Guarantee!  We know that you will be pleased with these
>>Videos!
>>>
>>>To Email your order - DO NOT HIT REPLY ON YOUR KEYBOARD
>>>
>>>Send email to our special email address below:
>>>
>>>infoplus467@juno.com
>>>
>>>[Note: If you order by email and do not receive an email acknowledgement
>>within 24 hours, please phone our office at
>>>718-287-3800]
>>>
>>>Phone our office 9am to 10 pm [eastern time]
>>>
>>>[718] 287-3800 to Order By Phone for FASTEST SERVICE!
>>>
>>> We can accept your credit card or check by phone
>>>
>>>Fax Your Order 24 hours per day  to  [718] 462-5920
>>>You can fax your credit card information or your check
>>>
>>>Order by mail by sending $12.95 per video,  cash, check, money order or
>>major credit card [Visa, MasterCard, American Express or Discover] to
>>>
>>>TCPS, INC.
>>>4718  18th Ave.  Suite 135
>>>Brooklyn, NY 11204
>>>
>>>Make Checks & Money Orders Payable to TCPS, Inc.
>>>New York State Residents Please Add 85 cents for Sales Tax per Video!
>>>
>>>You must be over 21 years of age to order and give us your date of birth
>>with your order!
>>>
>>>The Following Order Form is for Your Convenience!
>>>
>>>.....
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>>>

>>>Please ship me the following video tape[s]!
>>>
>>>Qty_____Annabel Chong "World's Biggest Gang Bang"
>>>
>>>Qty_____"Gang Bang II" Jasmin St. Claire
>>>
>>>Qty_____"Pamela & Tommy Lee Sex Video Tape"
>>>
>>>Qty_____  "Tonya Harding Wedding Night Sex Video Tape"
>>>
>>>Qty_____"Traci I Love You" Traci Lords
>>>
>>>at $9.95 each plus $3.00 for shipping and handling per tape
>>>[$12.95 per video or "SPECIAL $51.80 for ALL FIVE"!
>>>
>>>Credit Card #_____Exp Date___
>>>
>>>I hereby represent that I am over 21 years of age.
>>>My date of birth is_____
>>>
>>>Signature_____
>>>
>>>Ship to:  Name_____
>>>
>>>Address_____
>>>
>>>City_____State_____Zip_____
>>>
>>>Area Code and Home Phone  [    ]_____
>>>
>>>Fax # [     ]_____
>>>
>>>Email Address_____
>>>
>>>To remove your name from our mailing list, send us an email with
>>>remove in the subject line.  This is a one time offer and you should not
>>hear from us again!
>>>
>>>FOREIGN ORDERS -Add $15us if you desire Air Parcel Post Shipment.  We
ship
>>all over the world.
>>>
>>>By deleting your unwanted E-Mail you waste one keystroke, yet
>>>by throwing away paper mail you waste our planet!  SAVE THE
>>>TREES and support internet E-Mail instead of paper mail!
>>>
>>>[C] Copyright TCPS 1998
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## 13. Re: REMOVE

From: "Gary Hauge" <g_hauge@email.msn.com>
Date: Tue, 11 Aug 1998 14:50:41 -0400
To: <dsp@tapr.org>
Message-ID: <001201bdc558$f151b660$04000005@canaveral>
Rendered body type: text/plain

-----Original Message-----
From: Richard L Homer <kb7qlh@juno.com>
To: dsp@tapr.org <dsp@tapr.org>
Date: Tuesday, August 11, 1998 11:09 AM
Subject: [DSP:1082] Re: View Amazing World Record Sex!!!

>REMOVE
>
>
>Richard L. Homer RR 140       52H   KB7QLH
>1576 North Orante Road

>Tombstone, Az 85638-6120
>kb7qlh@juno.com  (H) rhomer@tombstonepl.lib.az.us (W)
>
>On Mon, 10 Aug 1998 20:53:56 -0500 (CDT) knowit98@hotmail.com writes:
>>Attention!
>>Warning! Adults Only!                    Warning! Adults
>>                                Only!
>>
>>If you are under 21 years of age, or not interested in sexually
>>explicit material...
>>please hit your keyboard delete button now
>>and please excuse the intrusion. To REMOVE your name from our
>>email list send us email with REMOVE in the subject line.
>>You need not read any further!
>>
>>
>>Available NOW for only $9.95!  Next 10 Days Only!
>>
>>WORLD RECORD SEX!
>>
>>Be There!  See It Now On Video!  Unbelievable ...But True!
>>
>>You Won't Believe Your Eyes!!!  [As Seen on the Howard Stern Show]
>>
>>"The World's Biggest Gang Bang"
>>
>>See sexy  Annabel Chong as she sets the world Gang Bang Record
>>in this fantastic video documentary that chronicles her 24 hour
>>sexathon with 251 men engaging in sexual intercourse and oral
>>sex with her!  Don't worry, you won't have to stay up 24 hours
>>to watch it all.  We've selected only the most exciting and red
>>hot scenes for you...all in breathtaking living color with plenty of
>>extreme close-ups!  This video is guaranteed to knock your socks
>>off and leave you breathless!  You've never seen anything like it!
>>Annabel takes on five men at a time!  90 minutes! Order Today!
>>Only $9.95 plus $3 shipping and handling [Total $12.95].
>>
>>
>>"GANG BANG II"
>>The Record Breaker!!!  Starring Jasmin St. Claire!
>>
>>See Beautiful and Voluptious Jasmin St. Claire shatter Annabel's
>>gang bang record by taking on 300 men in one 24 hour sex session!
>>You won't believe your eyes at all the hot firey action that you will
>>see as the new world record is established before your eyes as
>>Jasmin  takes on five men at a time for sexual intercourse and
>>oral sex!  Your friends will break down your door to see this video!
>>You'll be the most popular guy in town!  The action is truly unreal
>>and you will see the best of it in living life-like color!  Order
>>Today
>>and see Jasmin break the record!  90 minutes.  Only $9.95 plus
>>$3 shipping and handling [total $12.95].
>>
>>Also Available...
>>
>>The Uncensored Authentic Underground...
>>Pamela Anderson Lee & Tommy Lee
>>Sex Video Tape!
>>
>>Everyone is talking about this exciting video!  See Pam and
>>Tommy engaging in sexual intercourse and oral sex in the car,
>>on the boat and much, much more!  A  real collectors video! 30
>>minutes.
>>Only $9.95 plus $3 shipping and Handling [total $12.95]
>>
>>"Tonya Harding Wedding Night Sex Video"
>>Now see the beautiful Ice Skating Shame of the Olympics
>>Tonya Harding engaging in sexual intercourse and oral
>>sex on her wedding night with husband Jeff Gillooly!
>>This "Bad Girl" is Hot!  Don't miss this video! 30 minutes.
>>Only $9.95 plus $3 shipping and handling [total $12.95]
>>
>>"Traci...I Love You"  Starring Traci Lords
>>Now see the most beautiful and popular porn star in her last
>>adult video before she hit the big time!  It's the blockbuster of
>>the year...sensual...fiery and exposive!  Traci Lords in her most
>>erotic and controversial film ever!  Don't Miss It!  90 minutes.
>>Only $9.95 plus $3 shipping and handling [total $12.95]
>>

>>EMAIL SPECIAL!
>>
>>ORDER ANY FOUR VIDEOS AND GET THE FIFTH ONE FREE!!!
>>
>>Your order will be shipped via First Class Mail. All Shipments in
>>plain unmarked wrapper.
>>For Priority Mail - Add $5
>>For Overnight Express - add $15
>>
>>You can order by Phone, Fax, Mail or Email.
>>
>>We accept all Major Credit Cards and checks by phone or fax.
>>Visa - MasterCard - American Express - Discover
>>
>>10 Day Money Back Guarantee!  We know that you will be pleased with
>>these Videos!
>>
>>To Email your order - DO NOT HIT REPLY ON YOUR KEYBOARD
>>
>>Send email to our special email address below:
>>
>>infoplus467@juno.com
>>
>>[Note: If you order by email and do not receive an email
>>acknowledgement within 24 hours, please phone our office at
>>718-287-3800]
>>
>>Phone our office 9am to 10 pm [eastern time]
>>
>>[718] 287-3800 to Order By Phone for FASTEST SERVICE!
>>
>> We can accept your credit card or check by phone
>>
>>Fax Your Order 24 hours per day  to  [718] 462-5920
>>You can fax your credit card information or your check
>>
>>Order by mail by sending $12.95 per video,  cash, check, money order
>>or major credit card [Visa, MasterCard, American Express or Discover]
>>to
>>
>>TCPS, INC.
>>4718  18th Ave.  Suite 135
>>Brooklyn, NY 11204
>>
>>Make Checks & Money Orders Payable to TCPS, Inc.
>>New York State Residents Please Add 85 cents for Sales Tax per Video!
>>
>>You must be over 21 years of age to order and give us your date of
>>birth with your order!
>>
>>The Following Order Form is for Your Convenience!
>>
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>>
>>Please ship me the following video tape[s]!
>>
>>Qty_____Annabel Chong "World's Biggest Gang Bang"
>>
>>Qty_____"Gang Bang II" Jasmin St. Claire
>>
>>Qty_____"Pamela & Tommy Lee Sex Video Tape"
>>
>>Qty_____   "Tonya Harding Wedding Night Sex Video Tape"
>>
>>Qty_____"Traci I Love You" Traci Lords
>>
>>at $9.95 each plus $3.00 for shipping and handling per tape
>>[$12.95 per video or "SPECIAL $51.80 for ALL FIVE"!
>>
>>Credit Card #_____Exp Date___
>>
>>I hereby represent that I am over 21 years of age.
>>My date of birth is_____
>>
>>Signature_____

>>
>>Ship to:  Name_______________________________________
>>
>>Address____________________________________________
>>
>>City________________________State___________Zip________
>>
>>Area Code and Home Phone  [    ]___________________________
>>
>>Fax # [     ]______________________________________________
>>
>>Email Address____________________________________________
>>
>>To remove your name from our mailing list, send us an email with
>>remove in the subject line.  This is a one time offer and you should
>>not hear from us again!
>>
>>FOREIGN ORDERS -Add $15us if you desire Air Parcel Post Shipment.  We
>>ship all over the world.
>>
>>By deleting your unwanted E-Mail you waste one keystroke, yet
>>by throwing away paper mail you waste our planet!  SAVE THE
>>TREES and support internet E-Mail instead of paper mail!
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>>[C] Copyright TCPS 1998
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>_____
>You don't need to buy Internet access to use free Internet e-mail.
>Get completely free e-mail from Juno at http://www.juno.com
>Or call Juno at (800) 654-JUNO [654-5866]
>
>

## 14. recent spam replies...

From: douglas irving repetto <glmrboy@shoko.calarts.edu>
Date: Tue, 11 Aug 1998 15:23:55 -0400
To: dsp@tapr.org
Message-ID: <l03110704b1f649dfe3d1@[129.170.111.2]>
Rendered body type: text/plain

hi, just some advice from TidBITS#442/10-Aug-98 (http://www.tidbits.com/)
about replying to spammers:

+++++

**Removal Services** -- What about removal services listed in spam
  messages, or sites purporting to be "global remove" lists? Two
  years ago, I recommended these removal services, figuring that
  responsible bulk mailers (there are a few) will remove your name
  from their lists and irresponsible ones have your address anyway,
  so there's no harm in trying.

  Today, I can't recommend any removal services. Although a few are
  legitimate, far too many are either non-existent or simply
  address-collection clearing houses. One instance I chased down
  turned out to be a sophisticated operation used by several
  spammers: they collected the removal requests, then sold the
  senders' addresses to other spammers as "fresh addresses."

+++++

douglas

douglas irving repetto  (a.k.a. irving bellemead)

mailto:glmrboy@music.calarts.edu
http://shoko.calarts.edu/~glmrboy
music-dsp website:
http://shoko.calarts.edu/~glmrboy/musicdsp

```
*****
No encuentro la calle ni el techo
de la loca que me quería.    -p.n.
*****
```

## 15. remove

```
From: "Gary Hauge" <g_hauge@email.msn.com>
Date: Tue, 11 Aug 1998 19:55:39 -0400
To: <dsp@tapr.org>
Message-ID: <000601bdc583$8c7e0a60$04000005@canaveral>
Rendered body type: text/plain

-----Original Message-----
From: Gary Hauge <g_hauge@email.msn.com>
To: dsp@tapr.org <dsp@tapr.org>
Date: Tuesday, August 11, 1998 4:07 PM
Subject: [DSP:1084] Re: remove


>REMOVE!
>-----Original Message-----
>From: dsp@tapr.org <dsp@tapr.org>
>To: g_hauge@email.msn.com <g_hauge@email.msn.com>
>Date: Tuesday, August 11, 1998 10:54 AM
>Subject: Error Condition Re: Re: [DSP:1081] remove
>
>
>>
>>We are sorry, but this system sensed the following request which may have
>been
>>inadvertedly sent to this list:
>>
>>GET MY ADDRESS OFF THIS CRAP!
>>
>>If your posting was intentional, please accept our apologies and resend
>your
>>mail message, making sure you do not include anything that may look like a
>>request in the first line of the body of the actual message. If this was
>>indeed a request please resend it to listproc@tapr.org
>>Your entire message
>>is copied below.
>>
>>--------------------------------------------------------------------------
-
>----
>>Get my address off this crap!
>>-----Original Message-----
>>From: Nathan Sykes <nsykes@bellsouth.net>
>>To: dsp@tapr.org <dsp@tapr.org>
>>Date: Tuesday, August 11, 1998 1:13 AM
>>Subject: [DSP:1081] remove
>>
>>
>>>
>>>-----Original Message-----
>>>From: knowit98@hotmail.com <knowit98@hotmail.com>
>>>To: dsp@tapr.org <dsp@tapr.org>
>>>Date: Monday, August 10, 1998 9:31 PM
>>>Subject: [DSP:1080] View Amazing World Record Sex!!!
>>>
>>>
>>>>Attention!
>>>>Warning! Adults Only!                    Warning! Adults
>>>Only!
>>>>
>>>>If you are under 21 years of age, or not interested in sexually explicit
>>>material...
>>>>please hit your keyboard delete button now
>>>>and please excuse the intrusion. To REMOVE your name from our
>>>>email list send us email with REMOVE in the subject line.
>>>>You need not read any further!
>>>>
>>>>
>>>>Available NOW for only $9.95!  Next 10 Days Only!
>>>>
>>>>WORLD RECORD SEX!
>>>>
>>>>Be There!  See It Now On Video!  Unbelievable ...But True!
>>>>
```

>>>>You Won't Believe Your Eyes!!!  [As Seen on the Howard Stern Show]
>>>>
>>>>"The World's Biggest Gang Bang"
>>>>
>>>>See sexy  Annabel Chong as she sets the world Gang Bang Record
>>>>in this fantastic video documentary that chronicles her 24 hour
>>>>sexathon with 251 men engaging in sexual intercourse and oral
>>>>sex with her!  Don't worry, you won't have to stay up 24 hours
>>>>to watch it all.  We've selected only the most exciting and red
>>>>hot scenes for you...all in breathtaking living color with plenty of
>>>>extreme close-ups!  This video is guaranteed to knock your socks
>>>>off and leave you breathless!  You've never seen anything like it!
>>>>Annabel takes on five men at a time!  90 minutes! Order Today!
>>>>Only $9.95 plus $3 shipping and handling [Total $12.95].
>>>>
>>>>
>>>>"GANG BANG II"
>>>>The Record Breaker!!!  Starring Jasmin St. Claire!
>>>>
>>>>See Beautiful and Voluptious Jasmin St. Claire shatter Annabel's
>>>>gang bang record by taking on 300 men in one 24 hour sex session!
>>>>You won't believe your eyes at all the hot firey action that you will
>>>>see as the new world record is established before your eyes as
>>>>Jasmin  takes on five men at a time for sexual intercourse and
>>>>oral sex!  Your friends will break down your door to see this video!
>>>>You'll be the most popular guy in town!  The action is truly unreal
>>>>and you will see the best of it in living life-like color!  Order Today
>>>>and see Jasmin break the record!  90 minutes.  Only $9.95 plus
>>>>$3 shipping and handling [total $12.95].
>>>>
>>>>Also Available...
>>>>
>>>>The Uncensored Authentic Underground...
>>>>Pamela Anderson Lee & Tommy Lee
>>>>Sex Video Tape!
>>>>
>>>>Everyone is talking about this exciting video!  See Pam and
>>>>Tommy engaging in sexual intercourse and oral sex in the car,
>>>>on the boat and much, much more!  A  real collectors video! 30 minutes.
>>>>Only $9.95 plus $3 shipping and Handling [total $12.95]
>>>>
>>>>"Tonya Harding Wedding Night Sex Video"
>>>>Now see the beautiful Ice Skating Shame of the Olympics
>>>>Tonya Harding engaging in sexual intercourse and oral
>>>>sex on her wedding night with husband Jeff Gillooly!
>>>>This "Bad Girl" is Hot!  Don't miss this video! 30 minutes.
>>>>Only $9.95 plus $3 shipping and handling [total $12.95]
>>>>
>>>>"Traci...I Love You"  Starring Traci Lords
>>>>Now see the most beautiful and popular porn star in her last
>>>>adult video before she hit the big time!  It's the blockbuster of
>>>>the year...sensual...fiery and exposive!  Traci Lords in her most
>>>>erotic and controversial film ever!  Don't Miss It!  90 minutes.
>>>>Only $9.95 plus $3 shipping and handling [total $12.95]
>>>>
>>>>EMAIL SPECIAL!
>>>>
>>>>ORDER ANY FOUR VIDEOS AND GET THE FIFTH ONE FREE!!!
>>>>
>>>>Your order will be shipped via First Class Mail. All Shipments in plain
>>>unmarked wrapper.
>>>>For Priority Mail - Add $5
>>>>For Overnight Express - add $15
>>>>
>>>>You can order by Phone, Fax, Mail or Email.
>>>>
>>>>We accept all Major Credit Cards and checks by phone or fax.
>>>>Visa - MasterCard - American Express - Discover
>>>>
>>>>10 Day Money Back Guarantee!  We know that you will be pleased with
these
>>>Videos!
>>>>
>>>>To Email your order - DO NOT HIT REPLY ON YOUR KEYBOARD
>>>>
>>>>Send email to our special email address below:
>>>>
>>>>infoplus467@juno.com
>>>>

>>>>[Note: If you order by email and do not receive an email acknowledgement
>>>within 24 hours, please phone our office at
>>>>718-287-3800]
>>>>
>>>>Phone our office 9am to 10 pm [eastern time]
>>>>
>>>>[718] 287-3800 to Order By Phone for FASTEST SERVICE!
>>>>
>>>> We can accept your credit card or check by phone
>>>>
>>>>Fax Your Order 24 hours per day  to  [718] 462-5920
>>>>You can fax your credit card information or your check
>>>>
>>>>Order by mail by sending $12.95 per video,  cash, check, money order or
>>>major credit card [Visa, MasterCard, American Express or Discover] to
>>>>
>>>>TCPS, INC.
>>>>4718  18th Ave.  Suite 135
>>>>Brooklyn, NY 11204
>>>>
>>>>Make Checks & Money Orders Payable to TCPS, Inc.
>>>>New York State Residents Please Add 85 cents for Sales Tax per Video!
>>>>
>>>>You must be over 21 years of age to order and give us your date of birth
>>>with your order!
>>>>
>>>>The Following Order Form is for Your Convenience!
>>>>
>>>>.....
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>>>.............................
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>>>>
>>>>Please ship me the following video tape[s]!
>>>>
>>>>Qty_____Annabel Chong "World's Biggest Gang Bang"
>>>>
>>>>Qty_____"Gang Bang II" Jasmin St. Claire
>>>>
>>>>Qty_____"Pamela & Tommy Lee Sex Video Tape"
>>>>
>>>>Qty_____   "Tonya Harding Wedding Night Sex Video Tape"
>>>>
>>>>Qty_____"Traci I Love You" Traci Lords
>>>>
>>>>at $9.95 each plus $3.00 for shipping and handling per tape
>>>>[$12.95 per video or "SPECIAL $51.80 for ALL FIVE"!
>>>>
>>>>Credit Card #_____Exp Date___
>>>>
>>>>I hereby represent that I am over 21 years of age.
>>>>My date of birth is_____
>>>>
>>>>Signature_____
>>>>
>>>>Ship to:  Name_____
>>>>
>>>>Address_____
>>>>
>>>>City_____State_____Zip_____
>>>>
>>>>Area Code and Home Phone  [    ]_____
>>>>
>>>>Fax # [     ]_____
>>>>
>>>>Email Address_____
>>>>
>>>>To remove your name from our mailing list, send us an email with
>>>>remove in the subject line.  This is a one time offer and you should not
>>>hear from us again!
>>>>
>>>>FOREIGN ORDERS -Add $15us if you desire Air Parcel Post Shipment.  We
>ship
>>>all over the world.
>>>>

>>>>By deleting your unwanted E-Mail you waste one keystroke, yet
>>>>by throwing away paper mail you waste our planet!  SAVE THE
>>>>TREES and support internet E-Mail instead of paper mail!
>>>>
>>>>[C] Copyright TCPS 1998
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## 16. remove

From: "Gary Hauge" <g_hauge@email.msn.com>
Date: Tue, 11 Aug 1998 19:56:34 -0400
To: <dsp@tapr.org>
Message-ID: <001201bdc583$ac925220$04000005@canaveral>
Rendered body type: text/plain

-----Original Message-----
From: Gary Hauge <g_hauge@email.msn.com>
To: dsp@tapr.org <dsp@tapr.org>
Date: Tuesday, August 11, 1998 4:59 PM
Subject: [DSP:1083] Re: remove

>REMOVE!
>-----Original Message-----
>From: Nathan Sykes <nsykes@bellsouth.net>
>To: dsp@tapr.org <dsp@tapr.org>
>Date: Tuesday, August 11, 1998 1:13 AM
>Subject: [DSP:1081] remove
>
>
>>
>>-----Original Message-----
>>From: knowit98@hotmail.com <knowit98@hotmail.com>
>>To: dsp@tapr.org <dsp@tapr.org>
>>Date: Monday, August 10, 1998 9:31 PM
>>Subject: [DSP:1080] View Amazing World Record Sex!!!
>>
>>
>>>Attention!
>>>Warning! Adults Only!                    Warning! Adults
>>Only!
>>>
>>>If you are under 21 years of age, or not interested in sexually explicit
>>material...
>>>please hit your keyboard delete button now
>>>and please excuse the intrusion. To REMOVE your name from our
>>>email list send us email with REMOVE in the subject line.
>>>You need not read any further!
>>>
>>>
>>>Available NOW for only $9.95!  Next 10 Days Only!
>>>
>>>WORLD RECORD SEX!
>>>
>>>Be There!  See It Now On Video!  Unbelievable ...But True!
>>>
>>>You Won't Believe Your Eyes!!!  [As Seen on the Howard Stern Show]
>>>
>>>"The World's Biggest Gang Bang"
>>>
>>>See sexy  Annabel Chong as she sets the world Gang Bang Record
>>>in this fantastic video documentary that chronicles her 24 hour
>>>sexathon with 251 men engaging in sexual intercourse and oral
>>>sex with her!  Don't worry, you won't have to stay up 24 hours
>>>to watch it all.  We've selected only the most exciting and red

>>>hot scenes for you...all in breathtaking living color with plenty of
>>>extreme close-ups!  This video is guaranteed to knock your socks
>>>off and leave you breathless!  You've never seen anything like it!
>>>Annabel takes on five men at a time!  90 minutes! Order Today!
>>>Only $9.95 plus $3 shipping and handling [Total $12.95].
>>>
>>>
>>>"GANG BANG II"
>>>The Record Breaker!!!  Starring Jasmin St. Claire!
>>>
>>>See Beautiful and Voluptious Jasmin St. Claire shatter Annabel's
>>>gang bang record by taking on 300 men in one 24 hour sex session!
>>>You won't believe your eyes at all the hot firey action that you will
>>>see as the new world record is established before your eyes as
>>>Jasmin  takes on five men at a time for sexual intercourse and
>>>oral sex!  Your friends will break down your door to see this video!
>>>You'll be the most popular guy in town!  The action is truly unreal
>>>and you will see the best of it in living life-like color!  Order Today
>>>and see Jasmin break the record!  90 minutes.  Only $9.95 plus
>>>$3 shipping and handling [total $12.95].
>>>
>>>Also Available...
>>>
>>>The Uncensored Authentic Underground...
>>>Pamela Anderson Lee & Tommy Lee
>>>Sex Video Tape!
>>>
>>>Everyone is talking about this exciting video!  See Pam and
>>>Tommy engaging in sexual intercourse and oral sex in the car,
>>>on the boat and much, much more!  A  real collectors video! 30 minutes.
>>>Only $9.95 plus $3 shipping and Handling [total $12.95]
>>>
>>>"Tonya Harding Wedding Night Sex Video"
>>>Now see the beautiful Ice Skating Shame of the Olympics
>>>Tonya Harding engaging in sexual intercourse and oral
>>>sex on her wedding night with husband Jeff Gillooly!
>>>This "Bad Girl" is Hot!  Don't miss this video! 30 minutes.
>>>Only $9.95 plus $3 shipping and handling [total $12.95]
>>>
>>>"Traci...I Love You"  Starring Traci Lords
>>>Now see the most beautiful and popular porn star in her last
>>>adult video before she hit the big time!  It's the blockbuster of
>>>the year...sensual...fiery and exposive!  Traci Lords in her most
>>>erotic and controversial film ever!  Don't Miss It!  90 minutes.
>>>Only $9.95 plus $3 shipping and handling [total $12.95]
>>>
>>>EMAIL SPECIAL!
>>>
>>>ORDER ANY FOUR VIDEOS AND GET THE FIFTH ONE FREE!!!
>>>
>>>Your order will be shipped via First Class Mail. All Shipments in plain
>>unmarked wrapper.
>>>For Priority Mail - Add $5
>>>For Overnight Express - add $15
>>>
>>>You can order by Phone, Fax, Mail or Email.
>>>
>>>We accept all Major Credit Cards and checks by phone or fax.
>>>Visa - MasterCard - American Express - Discover
>>>
>>>10 Day Money Back Guarantee!  We know that you will be pleased with these
>>Videos!
>>>
>>>To Email your order - DO NOT HIT REPLY ON YOUR KEYBOARD
>>>
>>>Send email to our special email address below:
>>>
>>>infoplus467@juno.com
>>>
>>>[Note: If you order by email and do not receive an email acknowledgement
>>within 24 hours, please phone our office at
>>>718-287-3800]
>>>
>>>Phone our office 9am to 10 pm [eastern time]
>>>
>>>[718] 287-3800 to Order By Phone for FASTEST SERVICE!
>>>
>>> We can accept your credit card or check by phone
>>>

>>>Fax Your Order 24 hours per day  to  [718] 462-5920
>>>You can fax your credit card information or your check
>>>
>>>Order by mail by sending $12.95 per video,  cash, check, money order or
>>major credit card [Visa, MasterCard, American Express or Discover] to
>>>
>>>TCPS, INC.
>>>4718  18th Ave.  Suite 135
>>>Brooklyn, NY 11204
>>>
>>>Make Checks & Money Orders Payable to TCPS, Inc.
>>>New York State Residents Please Add 85 cents for Sales Tax per Video!
>>>
>>>You must be over 21 years of age to order and give us your date of birth
>>with your order!
>>>
>>>The Following Order Form is for Your Convenience!
>>>
>>>.....................................................................
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>>.............................
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>>>
>>>Please ship me the following video tape[s]!
>>>
>>>Qty___________Annabel Chong "World's Biggest Gang Bang"
>>>
>>>Qty__________"Gang Bang II" Jasmin St. Claire
>>>
>>>Qty___________"Pamela & Tommy Lee Sex Video Tape"
>>>
>>>Qty_________   "Tonya Harding Wedding Night Sex Video Tape"
>>>
>>>Qty__________"Traci I Love You" Traci Lords
>>>
>>>at $9.95 each plus $3.00 for shipping and handling per tape
>>>[$12.95 per video or "SPECIAL $51.80 for ALL FIVE"!
>>>
>>>Credit Card #_____Exp Date___
>>>
>>>I hereby represent that I am over 21 years of age.
>>>My date of birth is_____
>>>
>>>Signature_____
>>>
>>>Ship to:  Name_____
>>>
>>>Address_____
>>>
>>>City_____State_____Zip_____
>>>
>>>Area Code and Home Phone  [    ]_____
>>>
>>>Fax # [     ]_____
>>>
>>>Email Address_____
>>>
>>>To remove your name from our mailing list, send us an email with
>>>remove in the subject line.  This is a one time offer and you should not
>>hear from us again!
>>>
>>>FOREIGN ORDERS -Add $15us if you desire Air Parcel Post Shipment.  We
ship
>>all over the world.
>>>
>>>By deleting your unwanted E-Mail you waste one keystroke, yet
>>>by throwing away paper mail you waste our planet!  SAVE THE
>>>TREES and support internet E-Mail instead of paper mail!
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>>>[C] Copyright TCPS 1998
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## 17. REMOVE

From: "Gary Hauge" <g_hauge@email.msn.com>
Date: Tue, 11 Aug 1998 19:56:17 -0400
To: <dsp@tapr.org>
Message-ID: <000d01bdc583$a27e0f40$04000005@canaveral>
Rendered body type: text/plain

-----Original Message-----
From: Gary Hauge <g_hauge@email.msn.com>
To: dsp@tapr.org <dsp@tapr.org>
Date: Tuesday, August 11, 1998 4:13 PM
Subject: [DSP:1085] Re: REMOVE

>
>-----Original Message-----
>From: Richard L Homer <kb7qlh@juno.com>
>To: dsp@tapr.org <dsp@tapr.org>
>Date: Tuesday, August 11, 1998 11:09 AM
>Subject: [DSP:1082] Re: View Amazing World Record Sex!!!
>
>
>>REMOVE
>>
>>
>>Richard L. Homer RR 140       52H   KB7QLH
>>1576 North Orante Road
>>Tombstone, Az 85638-6120
>>kb7qlh@juno.com  (H) rhomer@tombstonepl.lib.az.us (W)
>>
>>On Mon, 10 Aug 1998 20:53:56 -0500 (CDT) knowit98@hotmail.com writes:
>>>Attention!
>>>Warning! Adults Only!                    Warning! Adults
>>>                                Only!
>>>
>>>If you are under 21 years of age, or not interested in sexually
>>>explicit material...
>>>please hit your keyboard delete button now
>>>and please excuse the intrusion. To REMOVE your name from our
>>>email list send us email with REMOVE in the subject line.
>>>You need not read any further!
>>>
>>>
>>>Available NOW for only $9.95!  Next 10 Days Only!
>>>
>>>WORLD RECORD SEX!
>>>
>>>Be There!  See It Now On Video!  Unbelievable ...But True!
>>>
>>>You Won't Believe Your Eyes!!!  [As Seen on the Howard Stern Show]
>>>
>>>"The World's Biggest Gang Bang"
>>>
>>>See sexy  Annabel Chong as she sets the world Gang Bang Record
>>>in this fantastic video documentary that chronicles her 24 hour
>>>sexathon with 251 men engaging in sexual intercourse and oral
>>>sex with her!  Don't worry, you won't have to stay up 24 hours
>>>to watch it all.  We've selected only the most exciting and red
>>>hot scenes for you...all in breathtaking living color with plenty of
>>>extreme close-ups!  This video is guaranteed to knock your socks
>>>off and leave you breathless!  You've never seen anything like it!
>>>Annabel takes on five men at a time!  90 minutes! Order Today!
>>>Only $9.95 plus $3 shipping and handling [Total $12.95].
>>>
>>>
>>>"GANG BANG II"
>>>The Record Breaker!!!  Starring Jasmin St. Claire!
>>>
>>>See Beautiful and Voluptious Jasmin St. Claire shatter Annabel's
>>>gang bang record by taking on 300 men in one 24 hour sex session!
>>>You won't believe your eyes at all the hot firey action that you will

>>>see as the new world record is established before your eyes as
>>>Jasmin  takes on five men at a time for sexual intercourse and
>>>oral sex!  Your friends will break down your door to see this video!
>>>You'll be the most popular guy in town!  The action is truly unreal
>>>and you will see the best of it in living life-like color!  Order
>>>Today
>>>and see Jasmin break the record!  90 minutes.  Only $9.95 plus
>>>$3 shipping and handling [total $12.95].
>>>
>>>Also Available...
>>>
>>>The Uncensored Authentic Underground...
>>>Pamela Anderson Lee & Tommy Lee
>>>Sex Video Tape!
>>>
>>>Everyone is talking about this exciting video!  See Pam and
>>>Tommy engaging in sexual intercourse and oral sex in the car,
>>>on the boat and much, much more!  A  real collectors video! 30
>>>minutes.
>>>Only $9.95 plus $3 shipping and Handling [total $12.95]
>>>
>>>"Tonya Harding Wedding Night Sex Video"
>>>Now see the beautiful Ice Skating Shame of the Olympics
>>>Tonya Harding engaging in sexual intercourse and oral
>>>sex on her wedding night with husband Jeff Gillooly!
>>>This "Bad Girl" is Hot!  Don't miss this video! 30 minutes.
>>>Only $9.95 plus $3 shipping and handling [total $12.95]
>>>
>>>"Traci...I Love You"  Starring Traci Lords
>>>Now see the most beautiful and popular porn star in her last
>>>adult video before she hit the big time!  It's the blockbuster of
>>>the year...sensual...fiery and exposive!  Traci Lords in her most
>>>erotic and controversial film ever!  Don't Miss It!  90 minutes.
>>>Only $9.95 plus $3 shipping and handling [total $12.95]
>>>
>>>EMAIL SPECIAL!
>>>
>>>ORDER ANY FOUR VIDEOS AND GET THE FIFTH ONE FREE!!!
>>>
>>>Your order will be shipped via First Class Mail. All Shipments in
>>>plain unmarked wrapper.
>>>For Priority Mail - Add $5
>>>For Overnight Express - add $15
>>>
>>>You can order by Phone, Fax, Mail or Email.
>>>
>>>We accept all Major Credit Cards and checks by phone or fax.
>>>Visa - MasterCard - American Express - Discover
>>>
>>>10 Day Money Back Guarantee!  We know that you will be pleased with
>>>these Videos!
>>>
>>>To Email your order - DO NOT HIT REPLY ON YOUR KEYBOARD
>>>
>>>Send email to our special email address below:
>>>
>>>infoplus467@juno.com
>>>
>>>[Note: If you order by email and do not receive an email
>>>acknowledgement within 24 hours, please phone our office at
>>>718-287-3800]
>>>
>>>Phone our office 9am to 10 pm [eastern time]
>>>
>>>[718] 287-3800 to Order By Phone for FASTEST SERVICE!
>>>
>>> We can accept your credit card or check by phone
>>>
>>>Fax Your Order 24 hours per day  to  [718] 462-5920
>>>You can fax your credit card information or your check
>>>
>>>Order by mail by sending $12.95 per video,  cash, check, money order
>>>or major credit card [Visa, MasterCard, American Express or Discover]
>>>to
>>>
>>>TCPS, INC.
>>>4718  18th Ave.  Suite 135
>>>Brooklyn, NY 11204
>>>

>>>Make Checks & Money Orders Payable to TCPS, Inc.
>>>New York State Residents Please Add 85 cents for Sales Tax per Video!
>>>
>>>You must be over 21 years of age to order and give us your date of
>>>birth with your order!
>>>
>>>The Following Order Form is for Your Convenience!
>>>
>>>.....
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>>>
>>>Please ship me the following video tape[s]!
>>>
>>>Qty_____Annabel Chong "World's Biggest Gang Bang"
>>>
>>>Qty_____"Gang Bang II" Jasmin St. Claire
>>>
>>>Qty_____"Pamela & Tommy Lee Sex Video Tape"
>>>
>>>Qty_____  "Tonya Harding Wedding Night Sex Video Tape"
>>>
>>>Qty_____"Traci I Love You" Traci Lords
>>>
>>>at $9.95 each plus $3.00 for shipping and handling per tape
>>>[$12.95 per video or "SPECIAL $51.80 for ALL FIVE"!
>>>
>>>Credit Card #_____Exp Date___
>>>
>>>I hereby represent that I am over 21 years of age.
>>>My date of birth is_____
>>>
>>>Signature_____
>>>
>>>Ship to:  Name_____
>>>
>>>Address_____
>>>
>>>City_____State_____Zip_____
>>>
>>>Area Code and Home Phone  [    ]_____
>>>
>>>Fax # [     ]_____
>>>
>>>Email Address_____
>>>
>>>To remove your name from our mailing list, send us an email with
>>>remove in the subject line.  This is a one time offer and you should
>>>not hear from us again!
>>>
>>>FOREIGN ORDERS -Add $15us if you desire Air Parcel Post Shipment.  We
>>>ship all over the world.
>>>
>>>By deleting your unwanted E-Mail you waste one keystroke, yet
>>>by throwing away paper mail you waste our planet!  SAVE THE
>>>TREES and support internet E-Mail instead of paper mail!
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>>>[C] Copyright TCPS 1998
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>>___________________________________________________________________
>>You don't need to buy Internet access to use free Internet e-mail.
>>Get completely free e-mail from Juno at http://www.juno.com
>>Or call Juno at (800) 654-JUNO [654-5866]
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## 18. Re: [DSP:1083] Re: remove

From: Tim Baggett <tim@acca.nmsu.edu>
Date: Tue, 11 Aug 1998 19:49:59 -0600 (MDT)
To: dsp@tapr.org
Message-ID: <Pine.BSF.3.96.980811194912.18047A-100000@acca.NMSU.Edu>
Rendered body type: text/plain

So how many times are we going to repost this crap to the list?

There are two choices that are optimal:

1) contact hotmail, or the phone number on the email and give them your
true feelings on the subject (whatever it may be)

2) unsubscribe from the list. The PROPER way to do this is to go to the
TAPR web site, http://www.tapr.org/tapr/html/sigs.html, and fill out the
form at the bottom of the page.

## 19. Re: [DSP:1090] Re: remove

From: Richwhiten@aol.com
Date: Tue, 11 Aug 1998 22:14:50 EDT
To: dsp@tapr.org
Message-ID: <175831cf.35d0fa9b@aol.com>
Rendered body type: text/plain

Agree, this bullshit is getting a bit much.

## 20. spam filters

From: Jaakko Koivuniemi <jaakko@pcna5802.cern.ch>
Date: Wed, 12 Aug 1998 10:05:13 +0200 (CEST)
To: dsp@tapr.org
Message-ID: <199808120805.KAA02418@pcna5802.cern.ch>
Rendered body type: text/plain

> There are two choices that are optimal:
>
3) Install a spam filter. I did not understand what this fuss was all about
until I checked my Mail/garbage, where all the spam goes. This message
was really easy to filter with all the keywords. Why not intsall a spam
filter to the list server end? If some real posting accidently gets filtered,
it can be easily forwarded back to the list. With procmail filtering should
be relatively easy thing to do.

--
Jaakko Koivuniemi  ->  jaakko@pcna5802.cern.ch, tel +41 22 76 72942
CERN/EP/COMPASS/Target
Home institute: Low Temperature Laboratory, Helsinki University of Technology
http://boojum.hut.fi/~jaakko/
OH7BF

## 21. Re: [DSP:1092] spam filters

From: Frode Weierud <Frode.Weierud@cern.ch>
Date: Wed, 12 Aug 1998 20:13:46 +0200 (METDST)
To: dsp@tapr.org
Message-ID: <Pine.HPP.3.95a.980812200757.15624A-100000@hpslz19.cern.ch>
Rendered body type: text/plain

On Wed, 12 Aug 1998, Jaakko Koivuniemi wrote:

> 3) Install a spam filter. I did not understand what this fuss was all about
> until I checked my Mail/garbage, where all the spam goes. This message
> was really easy to filter with all the keywords. Why not intsall a spam
> filter to the list server end? If some real posting accidently gets filtered,
> it can be easily forwarded back to the list. With procmail filtering should
> be relatively easy thing to do.
>

There is also some mailers that will only allow postings to the mailing
list from members on the list. If the TAPR mailing lists would use a more
formal method of subscription were each mailing list member had to give
some more information about themselves like call signs and milling
address I think the spamers would go elsewhere to find easier mailing
lists to target.

73's Frode,
        LA2RL

        Frode Weierud                    Phone  : +41 22 7674794

CERN, SL, CH-1211 Geneva 23, Switzerland
Fax : +41 22 7679185
E-mail : Frode.Weierud@cern.ch
WWW : wwwcn.cern.ch/~frode

## 22. Re: SPAM: Don't make it worse by hitting REPLY.....

From: DSCHULTZ@SSSP.HST.NASA.GOV
Date: Thu, 13 Aug 1998 4:01:28 GMT
To: dsp@tapr.org
Cc: DSCHULTZ@SSSP.HST.NASA.GOV
Message-ID: <980813040128.2bf@SSSP.HST.NASA.GOV>
Rendered body type: text/plain

WOULD YOU GUYS PLEASE READ THE INSTRUCTIONS FOR YOUR E-MAIL PROGRAM!!!!!

Hitting REPLY for a SPAM message that came through the mailing list
does not send your REMOVE request back to the spammer, it sends it
back to the list for everyone to read. Sending it back to the DSP list
won't get you off the spammers e-mail list (sending your remove request
direct to the spammer probably won't get you off his list either).

Improper use of the REPLY function ends up attaching a complete copy of
the offending SPAM message to your misdirected REMOVE request. The end
result is that instead of receiving just ONE copy of the x-rated spam,
I received almost a dozen copies from the HFSIG and DSP lists to take
up space in my mailbox while I was away for the past few days. Please
read your instructions and disable the automatic attachment of the
original message when you hit reply.

Don't make the SPAM problem worse by mailing extra copies of it back
to the list. I thought TAPR people were smarter than that.....

Dan Schultz N8FGV

## 23. Re: [DSP:1093] Re: spam filters

From: Jaakko Koivuniemi <jaakko@pcna5802.cern.ch>
Date: Thu, 13 Aug 1998 10:09:34 +0200 (CEST)
To: dsp@tapr.org
Message-ID: <199808130809.KAA03386@pcna5802.cern.ch>
Rendered body type: text/plain

> There is also some mailers that will only allow postings to the mailing
> list from members on the list. If the TAPR mailing lists would use a more

BTW, also a good place to check for anti-spam is http://www.sendmail.org/antispam.html.

--
Jaakko Koivuniemi -> jaakko@pcna5802.cern.ch, tel +41 22 76 72942
CERN/EP/COMPASS/Target
Home institute: Low Temperature Laboratory, Helsinki University of Technology
http://boojum.hut.fi/~jaakko/
OH7BF

## 24. Re: [DSP:1086] recent spam replies...

From: Walt <waltpark@jps.net>
Date: Thu, 13 Aug 1998 22:04:59 -0700
To: dsp@tapr.org
Message-ID: <35D3C57A.84FECF86@jps.net>
Rendered body type: text/plain

Thanks for the info. I've always suspected it was best to ignore spammers. I
do forward the full header to my ISP, though, who is very good at screening
their email in cases where there is a legitimate address to screen.

douglas irving repetto wrote:

> hi, just some advice from TidBITS#442/10-Aug-98 (http://www.tidbits.com/)
> about replying to spammers:
>
> +++++
>
> **Removal Services** -- What about removal services listed in spam
> messages, or sites purporting to be "global remove" lists? Two
> years ago, I recommended these removal services, figuring that
> responsible bulk mailers (there are a few) will remove your name
> from their lists and irresponsible ones have your address anyway,
> so there's no harm in trying.
>
> Today, I can't recommend any removal services. Although a few are

> legitimate, far too many are either non-existent or simply
> address-collection clearing houses. One instance I chased down
> turned out to be a sophisticated operation used by several
> spammers: they collected the removal requests, then sold the
> senders' addresses to other spammers as "fresh addresses."
>
> +++++
>
> douglas
>
> douglas irving repetto  (a.k.a. irving bellemead)
>
> mailto:glmrboy@music.calarts.edu
> http://shoko.calarts.edu/~glmrboy
> music-dsp website:
> http://shoko.calarts.edu/~glmrboy/musicdsp
>
> *****
> No encuentro la calle ni el techo
> de la loca que me quería.    -p.n.
> *****

## 25. PLL Issue

From: PABLO MOCHOSKY <mocho@usa.net>
Date: Sat, 15 Aug 1998 09:08:42
To: dsp@tapr.org
Message-ID: <19980815090842.25475.qmail@www01.netaddress.usa.net>
Rendered body type: text/plain

Hi Everyone,

I'm developing a project where I'm proccesing digital audio from a recorded media (like open reel digital recorders) to another storage medium (like sonic solutions systems). My input and my output are AES/EBU format and I already made some experiments with the cs8403 and the 8412 from crystal semiconductors. The problem is that I heard that the output of the pll in the receiver is really bad, to the point where it doesn't decuple jitter at all. The solution is use an external PLL for clocking the transmitter.
Now, the question is: What PLL can I use for that propouses? Is there any single IC that I can easyly use or should I design a discrete PLL? I'll appreciate any answer of any type or pointers to information.

Thanks in advance,

Pablo Mochcovsky
The Banff Centre For The Arts
Music & Sound
Audio Associate Program

_____
Get free e-mail and a permanent address at http://www.netaddress.com/?N=1

## 26. REMOVE

From: carlos <carlos@frontiernet.net>
Date: Sun, 16 Aug 1998 22:56:22 -0400
To: dsp@tapr.org
Message-ID: <35D79BD6.471B@frontiernet.net>
Rendered body type: text/plain

knowit98@hotmail.com wrote:
>
> Attention!
> Warning! Adults Only!                    Warning! Adults

Only!
>
> If you are under 21 years of age, or not interested in sexually explicit material...
> please hit your keyboard delete button now
> and please excuse the intrusion. To REMOVE your name from our
> email list send us email with REMOVE in the subject line.
> You need not read any further!
>
> Available NOW for only $9.95!  Next 10 Days Only!
>
> WORLD RECORD SEX!
>
> Be There!  See It Now On Video!  Unbelievable ...But True!
>
> You Won't Believe Your Eyes!!!  [As Seen on the Howard Stern Show]

>
> "The World's Biggest Gang Bang"
>
> See sexy  Annabel Chong as she sets the world Gang Bang Record
> in this fantastic video documentary that chronicles her 24 hour
> sexathon with 251 men engaging in sexual intercourse and oral
> sex with her!  Don't worry, you won't have to stay up 24 hours
> to watch it all.  We've selected only the most exciting and red
> hot scenes for you...all in breathtaking living color with plenty of
> extreme close-ups!  This video is guaranteed to knock your socks
> off and leave you breathless!  You've never seen anything like it!
> Annabel takes on five men at a time!  90 minutes! Order Today!
> Only $9.95 plus $3 shipping and handling [Total $12.95].
>
> "GANG BANG II"
> The Record Breaker!!!  Starring Jasmin St. Claire!
>
> See Beautiful and Voluptious Jasmin St. Claire shatter Annabel's
> gang bang record by taking on 300 men in one 24 hour sex session!
> You won't believe your eyes at all the hot firey action that you will
> see as the new world record is established before your eyes as
> Jasmin  takes on five men at a time for sexual intercourse and
> oral sex!  Your friends will break down your door to see this video!
> You'll be the most popular guy in town!  The action is truly unreal
> and you will see the best of it in living life-like color!  Order Today
> and see Jasmin break the record!  90 minutes.  Only $9.95 plus
> $3 shipping and handling [total $12.95].
>
> Also Available...
>
> The Uncensored Authentic Underground...
> Pamela Anderson Lee & Tommy Lee
> Sex Video Tape!
>
> Everyone is talking about this exciting video!  See Pam and
> Tommy engaging in sexual intercourse and oral sex in the car,
> on the boat and much, much more!  A  real collectors video! 30 minutes.
> Only $9.95 plus $3 shipping and Handling [total $12.95]
>
> "Tonya Harding Wedding Night Sex Video"
> Now see the beautiful Ice Skating Shame of the Olympics
> Tonya Harding engaging in sexual intercourse and oral
> sex on her wedding night with husband Jeff Gillooly!
> This "Bad Girl" is Hot!  Don't miss this video! 30 minutes.
> Only $9.95 plus $3 shipping and handling [total $12.95]
>
> "Traci...I Love You"  Starring Traci Lords
> Now see the most beautiful and popular porn star in her last
> adult video before she hit the big time!  It's the blockbuster of
> the year...sensual...fiery and exposive!  Traci Lords in her most
> erotic and controversial film ever!  Don't Miss It!  90 minutes.
> Only $9.95 plus $3 shipping and handling [total $12.95]
>
> EMAIL SPECIAL!
>
> ORDER ANY FOUR VIDEOS AND GET THE FIFTH ONE FREE!!!
>
> Your order will be shipped via First Class Mail. All Shipments in plain unmarked wrapper.
> For Priority Mail - Add $5
> For Overnight Express - add $15
>
> You can order by Phone, Fax, Mail or Email.
>
> We accept all Major Credit Cards and checks by phone or fax.
> Visa - MasterCard - American Express - Discover
>
> 10 Day Money Back Guarantee!  We know that you will be pleased with these Videos!
>
> To Email your order - DO NOT HIT REPLY ON YOUR KEYBOARD
>
> Send email to our special email address below:
>
> infoplus467@juno.com
>
> [Note: If you order by email and do not receive an email acknowledgement within 24 hours, please
phone our office at
> 718-287-3800]
>
> Phone our office 9am to 10 pm [eastern time]

> [718] 287-3800 to Order By Phone for FASTEST SERVICE!
>
>  We can accept your credit card or check by phone
>
> Fax Your Order 24 hours per day  to  [718] 462-5920
> You can fax your credit card information or your check
>
> Order by mail by sending $12.95 per video,  cash, check, money order or major credit card
[Visa, MasterCard, American Express or Discover]
to
>
> TCPS, INC.
> 4718  18th Ave.  Suite 135
> Brooklyn, NY 11204
>
> Make Checks & Money Orders Payable to TCPS, Inc.
> New York State Residents Please Add 85 cents for Sales Tax per Video!
>
> You must be over 21 years of age to order and give us your date of birth with your order!
>
> The Following Order Form is for Your Convenience!
>
> ..............................................
..............................................
.......
>
> Please ship me the following video tape[s]!
>
> Qty___________Annabel Chong "World's Biggest Gang Bang"
>
> Qty__________"Gang Bang II" Jasmin St. Claire
>
> Qty___________"Pamela & Tommy Lee Sex Video Tape"
>
> Qty__________   "Tonya Harding Wedding Night Sex Video Tape"
>
> Qty__________"Traci I Love You" Traci Lords
>
> at $9.95 each plus $3.00 for shipping and handling per tape
> [$12.95 per video or "SPECIAL $51.80 for ALL FIVE"!
>
> Credit Card #_____________________________Exp Date___
>
> I hereby represent that I am over 21 years of age.
> My date of birth is_____________________________
>
> Signature_____________________________________
_____
>
> Ship to:  Name_____________________________________
>
> Address_____________________________________
_
>
> City_____________________State___________Zip___
_____
>
> Area Code and Home Phone  [    ]_____________________________
>
> Fax # [     ]_____________________________________________
>
> Email Address_____________________________________
>
> To remove your name from our mailing list, send us an email with
> remove in the subject line.  This is a one time offer and you should not hear from us again!
>
> FOREIGN ORDERS -Add $15us if you desire Air Parcel Post Shipment.  We ship all over the world.
>
> By deleting your unwanted E-Mail you waste one keystroke, yet
> by throwing away paper mail you waste our planet!  SAVE THE
> TREES and support internet E-Mail instead of paper mail!
>
> [C] Copyright TCPS 1998

## 27. PC-DSP/SIM bugs

From: "Donald E. Haselwood" <k4jpj@appstate.campus.mci.net>
Date: Mon, 17 Aug 1998 19:31:15 -0400

To: dsp@tapr.org
Message-ID: <3.0.5.32.19980817193115.00836100@appstate.campus.mci.net>
Rendered body type: text/plain

I am just getting around to working with the PC-DSP package that I got with the TAPR group purchase (2 yrs ago?) and I find a few bugs*. I checked dsp solutions web site (http://www.dspsolutions.com) and to get the upgrades requires an ID and Password. I've emailed them a couple times and have not received a response (support@dspsolutions.com). I wonder if others have a similar experience.

73's
Don, W4DH

* E.g. one bug I found is that the list of coefficients for a FIR filter when saved (.RPT file) has a bogus return a few characters into the line. (The student version works just fine!).

## 28. Re: [DSP:1099] DSP digest 393

From: Jorge Passadore <jpassadore@yahoo.com>
Date: Tue, 18 Aug 1998 05:32:04 -0700 (PDT)
To: dsp@tapr.org
Message-ID: <19980818123204.16916.rocketmail@send103.yahoomail.com>
Rendered body type: text/plain

Dear Sirs:

Due to personal reasons I□m forced to ask you to kindly remove my E-mail adress from the distribution list.

Sincerely

LU4EBC Jorge Passadore

_____
DO YOU YAHOO!?
Get your free @yahoo.com address at http://mail.yahoo.com

## 29. Re:PC-DSP/SIM bugs

From: Moe Wheatley <ae4jy@mindspring.com>
Date: Tue, 18 Aug 1998 08:43:03 -0400
To: dsp@tapr.org
Message-ID: <1.5.4.32.19980818124303.006880b8@pop.mindspring.com>
Rendered body type: text/plain

Don,
I bought version 1.51 of PC-DSP/SIM several years ago and found so many bugs/problems in PC-SIM that it was not useable. It appeared that it was an analog simulator that was converted(not very well) into a digital one. A simple IIR filter stage required 20 or so blocks just to convert back and forth between continous and sampled data. Several function blocks weren't implemented. The most common way of exiting the program was the "CNTL-ALT_DEL" method.:>( Attempts to contact Dspsolutions was met with the same success that you seem to have had.

The PC-DSP part seems to work fairly well and I've used it primarily for generating FIR filter coefficients.

It seems like a good start for an affordable DSP simulator but needs more more work to make it useable. Maybe someone else out there has more info on the state of the program since it's been a few years since I went through this.

Moe, AE4JY

## 30. Re: [DSP:1101] Re:PC-DSP/SIM bugs

From: "Donald E. Haselwood" <k4jpj@appstate.campus.mci.net>
Date: Wed, 19 Aug 1998 12:23:13 -0400
To: dsp@tapr.org
Message-ID: <3.0.5.32.19980819122313.008a9d70@appstate.campus.mci.net>
Rendered body type: text/plain

Moe,

Thanks for the response.

>The PC-DSP part seems to work fairly well and I've used it primarily for
>generating FIR filter coefficients.

I've been using it for generating filter (iir & fir) coefficients too.  For
the filters I've tinkered with so far the book/student version is no
different than the Windows package.  The SIM program
was also dissapointing.  I had hoped to take a long (10 Mb or more) ascii
file of raw data and run it through various filters, graphing the output.
The file input conversion gives an error; apparently it does the conversion
all in memory.  (The solution was to write some C routines to do the
filtering...)

73's
Don, W4DH

## 31. Re: [DSP:1075] EVM56002 users in the Netherlands -Reply

From: pa0rbc@port.ve3mch.ampr.org
Date: Wed, 19 Aug 1998 23:55:38 edt
To: dsp@tapr.org
Message-ID: <56516@port.ve3mch.ampr.org>
Rendered body type: text/plain

Dr. OM, Paul PA0OCD heeft de DSK EVM56002 ca. 2 jaar geleden bij MECOM in
Bedum gekocht. Of de fa. bestaat niet meer of... in ieder geval probeerde ik
ze deze week te bereiken. Is het via de Fa. Spoeler, EBV en/of andere
groothandel niet aantrekkelijker of is speciaal de interfacing van de TAPR
groep van belang? Ik gebruik nu de 320C50 voor 9k6, 1k2, psk etc. Via
Frankrijk incl. porto tax kostte het met de creditcard US$ 99.--!!!
De EVM heeft weet ik voordelen. Ik ben benieuwd of er gereageerd is en of
er meerdere in Nederland naar de EVM56002 willen.
'73, Roeland PA0RBC, via packet: pa0rbc@pi8sat.

## 32. Re: [DSP:1082] Re: View Amazing World Record Sex!!!

From: AG8B@aol.com
Date: Thu, 20 Aug 1998 17:20:32 EDT
To: dsp@tapr.org
Message-ID: <8e23fe62.35dc9321@aol.com>
Rendered body type: text/plain

remove

## 33. New platforms available for PSK31

From: Eduardo Jacob <jtpjatae@bicc00.bi.ehu.es>
Date: Mon, 24 Aug 1998 14:21:33 +0200
To: hfsig@tapr.org, dsp@tapr.org
Message-ID: <3.0.5.32.19980824142133.00842b20@bicc00.bi.ehu.es>
Rendered body type: text/plain

The summertime has been fruitfull and I am pleased to announce new
versions/modems of PSK31:

First,

        There is a full Windows version for the Motorola EVM by Peter Martinez
that can transmit 255 different varicode symbols, and maps these to values
in the range 0 to 255 for display as characters on the screen. This means
that PSK31 is capable of handling some of the less-often-used symbols and
special accented characters that are not in the standard 128-character
ASCII character set. Note, however, that the character-mapping used is the
ANSI standard, intended for world-wide use and not the character mapping
used by DOS programs, which is different for each country and depends on
the code page installed in your computer's display and keyboard drivers.

        This version supports automatic loading of code on the EVM if the PLXBOOT
code is loaded on the EEPROM and is a deligth to operate.

        It's available here: ftp://det.bi.ehu.es/pub/ham/psk31/psk31evmw.zip

Second,

        There is a version of PSK31 for the Analog Devices by Michael Keller
DL6IAK. You will need to perform an small modification (soldering a wire)
on the SHARC board but it's compatible will all other software for it.

        This version available only for Windows, has the unique capability to have
a spectral display to help finding the frequency.

It's available here:

ftp://det.bi.ehu.es/pub/ham/psk31/psk31shcw.zip

As a reminder, the official PSK31 Webpage is in

http://aintel.bi.ehu.es/psk31.html

Best regards and hoping to meet you soon on PSK31.

Eduardo/EA2BAJ


---

Eduardo Jacob - Area de Ingenieria Telematica
Departamento de Electronica y Telecomunicaciones
ETSII y de IT Tel: +34-(9)4-427 8055
UPV / EHU Fax: +34-(9)4-441 4041
Alda Urquijo s/n E-mail: jtpjatae@bi.ehu.es
E-48013 - Bilbao (Spain)
PGP Key available: Send email w/subject: PGPKEY
fingerprint : D8 FA 54 49 F7 40 BA AA 09 1A 73 40 A4 26 ED BD


## 34. MTHell and FeldHell for the EVM

From: Eduardo Jacob <jtpjatae@bicc00.bi.ehu.es>
Date: Mon, 24 Aug 1998 14:30:44 +0200
To: hfsig@tapr.org, dsp@tapr.org
Message-ID: <3.0.5.32.19980824143044.00858380@bicc00.bi.ehu.es>
Rendered body type: text/plain

After a Beta test time, I am pleased to tell you that there are two new
packages by Peter G3PLX that implement a Windows Feldhell terminal and a
Windows MTHell (Multitone Hell) terminal. Both are for the Motorola EVM and
available here:

http://det.bi.ehu.es/pub/ham/evm/Hell/feldhell.zip
http://det.bi.ehu.es/pub/ham/evm/Hell/mthell.zip

Regards and hoping to do DX on MT/FeldHELL

Eduardo/EA2BAJ


---

Eduardo EA2BAJ
DSP and HAM: http://det.bi.ehu.es/~jtpjatae/ham.html
VHF PACKET: EA2BAJ @ EA2URV
PGP Key avlb: Send email w/subject: PGPKEY
fingerprint : D8 FA 54 49 F7 40 BA AA 09 1A 73 40 A4 26 ED BD


## 35. Re: [psk31] New platforms available for PSK31

From: "Douglas & Nadia Braun" <dougbert@otenet.gr>
Date: Mon, 24 Aug 1998 21:19:46 +0300
To: <hfsig@tapr.org>, <dsp@tapr.org>,
"Eduardo Jacob" <jtpjatae@bicc00.bi.ehu.es>
Message-ID: <199808241819.VAA01838@athserv.otenet.gr>
Rendered body type: text/plain

Thanks for the information. By the way, I will be moving from Greece
back to the USA in a couple of weeks, and all my gear is being packed up
right now.
Hopefully in a couple of months I wil be back on the air...

Doug
SV/N1OWU

---

> From: Eduardo Jacob <jtpjatae@bicc00.bi.ehu.es>
> To: hfsig@tapr.org; dsp@tapr.org
> Subject: [psk31] New platforms available for PSK31
> Date: 24 August 1998 15:21
>
> The summertime has been fruitfull and I am pleased to announce new
> versions/modems of PSK31:

## 36. (no subject)

From: Eduardo Jacob <edu@kender.es>
Date: Tue, 25 Aug 1998 07:47:47 -0100
To: dsp@tapr.org
Message-ID: <3.0.5.32.19980825074747.0089fd80@kender.es>
Rendered body type: text/plain

the correct URLs are:

  ftp://det.bi.ehu.es/pub/ham/evm/Hell/feldhell.zip
  ftp://det.bi.ehu.es/pub/ham/evm/Hell/mthell.zip

and not:

  http://det.bi.ehu.es/pub/ham/evm/Hell/feldhell.zip
  http://det.bi.ehu.es/pub/ham/evm/Hell/mthell.zip

       In the webpage, hopefully the URL are correctly refered. Alberto also
noted it.

       Eduardo

## 37. ?How to get EVM56002?

From: pa0rbc@port.ve3mch.ampr.org
Date: Sun, 30 Aug 1998 05:42:42 edt
To: dsp@tapr.org
Message-ID: <61954@port.ve3mch.ampr.org>
Rendered body type: text/plain

Dr. OM's,
If you have an (email)address for me how to get for a reasonable price
the EVM56002 evaluationkit then I'm very glad.
No problem which country, if I can pay with a CreditCard.

'73 es tnx fer response, Roeland, PA0RBC.
email: pa0rbc@ve3mch.ampr.org

## 38. Re: [DSP:1109] ?How to get EVM56002?

From: "Steven R. Bible" <srbible@gate.net>
Date: Sun, 30 Aug 1998 09:18:49 -0400
To: dsp@tapr.org
Message-ID: <3.0.5.32.19980830091849.00a30e50@pop.gate.net>
Rendered body type: text/plain

Try Monterey Tools at http://www.montereytools.com.  Price is US$149.00
plus shipping and handling.  S/H in the US is $15.00.  Please tell them
Steve at TAPR sent you.

Other distributors are:
    Newark (http://www.newark.com),
    Wyle (http://www.wyle.com), and
    Arrow (http://www.arrow.com).

- Steve


At 05:43 AM 8/30/98 -0500, you wrote:
>Dr. OM's,
>If you have an (email)address for me how to get for a reasonable price
>the EVM56002 evaluationkit then I'm very glad.
>No problem which country, if I can pay with a CreditCard.
>
>'73 es tnx fer response, Roeland, PA0RBC.
>email: pa0rbc@ve3mch.ampr.org
>
>
 - Steve
 (n7hpr@tapr.org)

## 39. RE: [DSP:1110] Re: ?How to get EVM56002?

From: john.clark@state.co.us
Date: Sun, 30 Aug 1998 11:35:40 -0600
To: <dsp@tapr.org>
Message-ID: <c=US%a=_%p=Colorado%l=EXCHANGE1-980830173540Z-13286@exchange1.state.co.us>
Rendered body type: text/plain

Thanks for the email.
I purchased the last one tapr had last week.
I can only assume that is was the last one that tapr was holding back
for DOAs.

And I got it.

Thanks again.

Now I just waiting of the EVM kit box due out next month?

-----Original Message-----
From: Steven R. Bible [mailto:srbible@gate.net]
Sent: Sunday, August 30, 1998 7:21 AM
To: dsp@tapr.org
Subject: [DSP:1110] Re: ?How to get EVM56002?

Try Monterey Tools at http://www.montereytools.com.  Price is US$149.00
plus shipping and handling.  S/H in the US is $15.00.  Please tell them
Steve at TAPR sent you.

Other distributors are:
    Newark (http://www.newark.com),
    Wyle (http://www.wyle.com), and
    Arrow (http://www.arrow.com).

- Steve

At 05:43 AM 8/30/98 -0500, you wrote:
>Dr. OM's,
>If you have an (email)address for me how to get for a reasonable price
>the EVM56002 evaluationkit then I'm very glad.
>No problem which country, if I can pay with a CreditCard.
>
>'73 es tnx fer response, Roeland, PA0RBC.
>email: pa0rbc@ve3mch.ampr.org
>
>
 - Steve
 (n7hpr@tapr.org)

## 40. Re: [DSP:1111] Re: ?How to get EVM56002?

From: "Steven R. Bible" <srbible@gate.net>
Date: Sun, 30 Aug 1998 18:43:36 -0400
To: dsp@tapr.org
Message-ID: <3.0.5.32.19980830184336.00910ce0@pop.gate.net>
Rendered body type: text/plain

At 12:39 PM 8/30/98 -0500, you wrote:
>Now I just waiting of the EVM kit box due out next month?

Yeppers!

TAPR is taking orders on the EVM until September 15th at which time we'll
start the kitting process.  Orders should be filled by the end of October.

Here is the original announcement:

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

Introducing the TAPR EVM56002 Interface boards and Enclosure Kit
http://www.tapr.org/tapr/html/dsp56002evm.html

TAPR is now taking orders for the first round of EVM56002 Interface with
enclosure kits until September 15th.

This kit provides:
        An EVM Interface Board Kit and Enclosure for the Motorola EVM56002
        All parts - including screws and standoffs
        Schematics and Documentation (Assembly and Operations)
        Software

        A Motorola EVM56002 (DSP) Interface board ** IS NOT INCLUDED **

The interface kit has been discussed for about the last year, with a group
coming forward late in 1997 to complete the design process.  PSR Issue #69,
Winter 1998, has the full description with photos.  Current information on
the kit is now available at http://www.tapr.org/tapr/html/dsp56002evm.html

This design of the radio interface for the Motorola DSP56002EVM is based on
Johan Forrer's, KC7WW, original design.  In February 1997, Douglas Braun,
N1OWU, released his software suite for the EVM, based on the Finnish Alef
Null groups work.  The TAPR interface is a happy medium between Johan's and

Doug's design.  The goal is to make the interface flexible for past and
present code developed for the EVM and to create a flexible programming
interface for future programmers.


---
Tucson Amateur Packet Radio
8987-309 E Tanque Verde Rd #337 * Tucson, Az * 85749-9399
---
e-mail: tapr@tapr.org       web: <http://www.tapr.org/>
ftp:    ftp.tapr.org
phone:  940-383-0000        fax: 940-565-2544
---


 - Steve
 (n7hpr@tapr.org)

## 41. Re: [DSP:1109] ?How to get EVM56002?

From: Tim Baggett <tim@dsp.sps.mot.com>
Date: Sun, 30 Aug 1998 18:59:41 -0500 (CDT)
To: dsp@tapr.org
Message-ID: <Pine.GSO.3.96.980830185629.10216B-100000@aa5df>
Rendered body type: text/plain

You can order a DSP56002EVM from Monterey Tools at www.montereytools.com.

Also, for other DSP e-citizens, I have seen the DSP list recently get hit
with dozens of potential porn spam email addresses. I am currently
deleting them as fast as they subscribe to prevent them from spamming the
list. I will be doing what I can to prevent this.

In the meantime, all I can say is write your congressman to make this
stuff illegal!

73,
Tim, AA5DF


---
Tim Baggett                         Motorola Semiconductor Products
Email: tim@dsp.sps.mot.com          Digital Radio Systems / WSSG
Internal: RA5367@email              6501 William Cannon Dr West
Phone:    (512) 895-6718            Austin, Texas 78735-8598
FAX:      (512) 895-4665            http://www.mot.com/SPS/DSP
---


On Sun, 30 Aug 1998 pa0rbc@port.ve3mch.ampr.org wrote:

> Dr. OM's,
> If you have an (email)address for me how to get for a reasonable price
> the EVM56002 evaluationkit then I'm very glad.
> No problem which country, if I can pay with a CreditCard.
>
> '73 es tnx fer response, Roeland, PA0RBC.
> email: pa0rbc@ve3mch.ampr.org
>
>
>

# September 1998

Original source file: dsp.9809
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/dspsig/mail_archive/dsp.9809

## 1. Fwd: TI Seminars Present the Latest Developments in DSP, Analog Technologies

```
From: "Greg Jones, WD5IVD" <wd5ivd@tapr.org>
Date: Sat, 5 Sep 1998 14:47:08 -0600
To: " TAPR/AMSAT DSP "<dsp@tapr.org>
Message-ID: <v0401171bb21753bd0666@[153.34.179.44]>
Rendered body type: text/plain
```

FYI -- Greg

>Date: Tue, 25 Aug 1998 12:43:52 -0400
>From: Texas Instruments <ti@dsp2.dspnet.com>
>Subject: TI Seminars Present the Latest Developments in DSP, Analog
>Technologies
>Status:
>
>  Texas Instruments is presenting a new series of free two-day seminars on
>its latest digital signal processing (DSP) and analog technologies and
>products.  Day-one attendees will learn how TI's TMS320C5000 and 'C6000 DSP
>platforms can advance product innovation and deliver cost savings at the
>device and systems level. Day-two attendees will learn how TI's analog and
>mixed-signal products, including amplifiers, data converters, power-
>management and data transmission devices, deliver significant strategic
>advantages.
>
>  In addition, attendees will learn how TI can help them get their products
>to market faster, at lower costs and with greater differentiation.  Free
>and discounted development tools will be available to attendees.
>
>  For more information or to register, call 1-800-477-8924 extension 1998,
>or visit TI's web site at:  http://www.ti.com/sc/seminar
>
>DATES & LOCATIONS:
>        Sept. 28-29     Philadelphia, PA
>        Sept. 29-30     Baltimore, MD
>        Oct. 1-2        Atlanta, GA
>        Oct. 5-6        Orlando, FL
>        Oct. 6-7        Dallas, TX
>        Oct. 7-8        Minneapolis, MN
>        Oct. 8-9        Cleveland, OH
>        Oct. 12-13      Chicago, IL
>        Oct. 13-14      Detroit, MI
>        Oct. 14-15      Toronto, Canada
>        Oct. 15-16      Houston, TX
>        Oct. 19-20      Denver, CO
>        Oct. 20-21      Phoenix, AZ
>        Oct. 21-22      Seattle, WA
>        Oct. 22-23      Woodland Hills, CA
>        Oct. 26-27      San Jose, CA
>        Oct. 28-29      Newport Beach, CA
>        Oct. 29-30      San Diego, CA
>        Nov. 2-3        Boston, MA
>        Nov. 3-4        Raleigh, NC
>        Nov. 4-5        Rochester, NY
>        Nov. 5-6        Fairfield, NJ
>
>###
>
-----
Greg Jones, WD5IVD                Austin, Texas
wd5ivd@tapr.org      http://www.tapr.org/~wd5ivd

## 2. Tnx all info availability EVM56002

```
From: pa0rbc@port.ve3mch.ampr.org
Date: Sun, 06 Sep 1998 01:31:09 edt
To: dsp@tapr.org
Message-ID: <67419@port.ve3mch.ampr.org>
Rendered body type: text/plain
```

Dr. OM's,
Mni tnx for all you info about the availability of the Motorola evaluation kit.
'73 fm Roeland. QTH: Den Helder, 50 miles North Amsterdam on the Northseacoast.

## 3. unsubscribe

```
From: wayne roberts <milcom@netcom.com>
Date: Thu, 10 Sep 1998 22:55:11 -0700 (PDT)
To: dsp@tapr.org
Message-ID: <199809110555.WAA25478@netcom3.netcom.com>
Rendered body type: text/plain
```

[Empty message body]

## 4. unsubscribe

```
From: Wayne Roberts <wroberts@cruznet.net>
Date: Thu, 10 Sep 1998 23:09:35 -0700 (PDT)
To: dsp@tapr.org
Message-ID: <199809110609.XAA05199@cruznet2.cruznet.net>
Rendered body type: text/plain
```

[Empty message body]

## 5. ?Where G3RUH 9k6 EVM56002 software?

```
From: pa0rbc@port.ve3mch.ampr.org
Date: Sun, 13 Sep 1998 02:22:55 edt
To: dsp@tapr.org
Message-ID: <74966@port.ve3mch.ampr.org>
Rendered body type: text/plain
```

Dr. OM's,
Do you have any idea where I can find G3RUH 9k6/1k2 packet software?
Many thanks in advance for your response and '73, Roeland.

## 6. TAPR.ORG Down and now Back

```
From: "Greg Jones, WD5IVD" <wd5ivd@tapr.org>
Date: Mon, 14 Sep 1998 21:09:36 -0500
To: "HF SIG  list   mailing"<hfsig@tapr.org>, " Spread Spectrum "<ss@tapr.org>,
        " TAPR/AMSAT DSP "<dsp@tapr.org>,
        "APRS SIG  list   mailing"<aprssig@tapr.org>,
        "NETSIG  list   mailing"<netsig@tapr.org>,
        "BBS SIG  list   mailing"<bbssig@tapr.org>,
        " tacgps "<tacgps@tapr.org>, aprsnews, mic-e,
        TAPR Regional Freq <regional_freq@tapr.org>
Message-ID: <v0401170fb2237bbfafc8@[207.8.125.53]>
Rendered body type: text/plain
```

TAPR.ORG was down on Saturday for a system upgrade.  We installed a new
processor board as well as added more memory and a new 9G HD.

Sunday morning very early, the root drive crashed and burned.  Lee spent
Sunday and today (Monday) recovering from the crash on root.  We had backed
up the system just before the upgrade, so we didn't get hit very hard.  We
took this time to also upgrade the OS on the system, which we had planned
to in the future.

Lee got the system back operational about 6pm tonight and all aspects of
the system should be operational by this posting.  We will be spending the
rest of tonight doing checks on various automatic operations to make sure
that everything is running correctly.

Cheers - Greg
-----
Greg Jones, WD5IVD
        President TAPR (http://www.tapr.org)
        PhD Candidate, Instructional Technology, UT Austin

email: wd5ivd@tapr.org
web: http://www.tapr.org/~wd5ivd


Experience is what you get when you were expecting something else.

## 7. Re: [DSP:1082] DSP digest 386

```
From: Itziar Martinez <itziar@bips00.bi.ehu.es>
Date: Tue, 15 Sep 1998 11:08:00 +0200 (CEST)
To: dsp@tapr.org
Message-ID: <Pine.LNX.3.96.980915110749.26796A-100000@bips.bi.ehu.es>
Rendered body type: text/plain
```

REMOVE

## 8. Re: [DSP:1118] ?Where G3RUH 9k6 EVM56002 software?

From: "Paulus" <paulstra@xs4all.nl>
Date: Tue, 15 Sep 1998 19:41:26 +0200
To: <dsp@tapr.org>
Message-ID: <000c01bde0d0$114cb0e0$87816dc2@machientje>
Rendered body type: text/plain

Hoi Roeland,

Staat gewoon bij de Tapr download hoor.
Ik heb je dacht ik die links toegezonden, en je moet de N1OWU files hebben.
Voor de Bios ook trouwens.
Heb je er nu eentje een evm56, en is packet niet al over Roeland ? hi.
73 de Paul

## 9. Re: [DSP:1120] Re: DSP digest 386

From: "L. Coleman" <maltese@nb.net>
Date: Tue, 15 Sep 1998 13:47:35 -0400
To: dsp@tapr.org
Message-ID: <35FEA837.E2D5AF3E@nb.net>
Rendered body type: text/plain

REMOVE

Itziar Martinez wrote:

> REMOVE

## 10. unsubscribe

From: Fido <Fido@balou.iap.physik.uni-tuebingen.de>
Date: Tue, 15 Sep 1998 21:13:32 +0200 (MSZ)
To: dsp@tapr.org
Message-ID: <Pine.A32.3.91.980915211248.18128A-100000@balou.iap.physik.uni-tuebingen.de>
Rendered body type: text/plain

[Empty message body]

## 11. subscribe

From: pa0rbc@port.ve3mch.ampr.org
Date: Tue, 15 Sep 1998 23:35:06 edt
To: dsp@tapr.org
Message-ID: <79018@port.ve3mch.ampr.org>
Rendered body type: text/plain

[Empty message body]

## 12. VIRUS WARNING!

From: "Fernando M. I. Carreiro" <fmi@carreiro.com>
Date: Tue, 15 Sep 1998 21:42:38 +0100
To: "Acorn Sales" <sales@acorn.com>, "Alan R Lindsey" <lindseya@rl.af.mil>, "Alberto Di Bene" <75800340@it.ibm.com>, "Alice Bowse
Message-ID: <000001bde178$769bf7a0$e6ffa8c0@pc001>
Rendered body type: text/plain

WARNING!!!!!!!
    If you receive an e-mail titled.....JOIN THE CREW........ and/or PENPALS.............DO NOT open
it!!!!!
    It will erase EVERYTHING on your hard drive!.
    Send this letter out to as many people as you can....this is a new virus and not many people know
about it!!
    This information was received by IBM (9 September 1998).
    Please share it with anyone that might access the internet!!!
    PENPAL appears to be a friendly letter asking you if you are interested in a penpal.....but by the
time you read this letter it is TOO late.
    The Trojan horse virus will have already infected the boot sector of your hard drive, destroying all
 the data present.
    It is a self-replicating virus, and once the message is read it will AUTOMATICALLY forward itself to
 anyone who's e-mail address is present in your box!!! This virus will destroy your hard drive and holds
 the potential to DESTROY the hard drive of anyone whose mail is in your box and whose mail is in their
box and so on and on!!!!!!
    So delete any message titled PENPAL or JOIN THE CREW.......this virus can do major DAMAGE to
worldwide networks!!!!
    PLEASE PASS THIS ALONG TO ALL YOUR FRIENDS AND PEOPLE IN YOUR MAILBOXES.........

    AOL..... HAS SAID THIS IS A VERY DANGEROUS VIRUS AND THERE IS NO REMEDY FOR THIS........

    FORWARD IT TO ALL YOUR ON-LINE FRIENDS A.S.A.P.!!!!!!!!!!!!!!!!!!

## 13. Re: [DSP:1118] ?Where G3RUH 9k6 EVM56002 software?

From: "Teague, David" <kf4psc@conninc.com>
Date: Thu, 17 Sep 1998 21:56:54 -0000
To: <dsp@tapr.org>
Message-ID: <001301bde286$162ec1e0$c6c157cf@dteague>
Rendered body type: text/plain

remove
-----Original Message-----
From: pa0rbc@port.ve3mch.ampr.org <pa0rbc@port.ve3mch.ampr.org>
To: dsp@tapr.org <dsp@tapr.org>
Date: Tuesday, September 15, 1998 1:55 AM
Subject: [DSP:1118] ?Where G3RUH 9k6 EVM56002 software?


>Dr. OM's,
>Do you have any idea where I can find G3RUH 9k6/1k2 packet software?
>Many thanks in advance for your response and '73, Roeland.
>

## 14. 1998 ARRL and TAPR DCC this coming weekend !

From: "Greg Jones, WD5IVD" <wd5ivd@tapr.org>
Date: Tue, 22 Sep 1998 17:41:08 -0500
To: "TAPR-BB list mailing"<tapr-bb@tapr.org>
Cc: "HF SIG list mailing"<hfsig@tapr.org>, " Spread Spectrum "<ss@tapr.org>,
" TAPR/AMSAT DSP "<dsp@tapr.org>,
"APRS SIG list mailing"<aprssig@tapr.org>,
"NETSIG list mailing"<netsig@tapr.org>,
"BBS SIG list mailing"<bbssig@tapr.org>,
" tacgps "<tacgps@tapr.org>, aprsnews, mic-e,
TAPR Regional Freq <regional_freq@tapr.org>
Message-ID: <v04011717b22dd78686a9@[128.83.74.103]>
Rendered body type: text/plain

Just as a reminder the 1998 ARRL and TAPR Digital Communications Conference
in Chicago, IL is happening this weekend!

The conference schedule and information is on-line at http://www.tapr.org/dcc
The abstract page should be on-line shortly.

Hope to see you in Chicago this weekend!

Cheers - Greg Jones, WD5IVD
-----
Greg Jones, WD5IVD Austin, Texas
wd5ivd@tapr.org http://www.tapr.org/~wd5ivd

## 15. TI's 'C6701 DSP IS SAMPLING TODAY

From: Texas Instruments <ti@dsp2.dspnet.com> (by way of Greg Jones, WD5IVD)
Date: Wed, 23 Sep 1998 14:51:25 -0500
To: " TAPR/AMSAT DSP "<dsp@tapr.org>
Message-ID: <v04011705b22f01b34c07@[207.8.125.53]>
Rendered body type: text/plain

FYI -- Greg

-----

The world's most powerful DSPs, the TMS320C6000 platform from TI, continue
to revolutionize the DSP industry...

THE WORLD'S HIGHEST PERFORMANCE FLOATING-POINT DSP - TMS320C6701 SHIPPING NOW:
TMS320C6701 sample silicon is available today providing the highest
floating point performance available and is pin-for-pin compatible with the
fixed-point 'C6201/'C6201B in a 35mm BGA package. 'C6701 silicon was
demonstrated last week at DSP World. Volume production for the 'C6701 is
scheduled for 2Q99.

TMS320C6000 DSPs BREAK THE POWER BARRIER - LESS THAN 1.9 WATTS:
The new TMS320C6201B demonstrates less than 1.9 Watts of typical power
dissipation and is sampling today. The original 'C6201 is currently in
volume production, with volume production for the lower power 'C6201B
scheduled for 1Q99.

TWO NEW GROUNDBREAKING 'C62x DEVICES:
TI has recently announced two new devices, the TMS320C6211 offering 1200
MIPS for $25 (in 25K unit quantities) and the TMS320C6202 offering 2000
MIPS. For details visit http://www.ti.com/sc/c62xdsps

SUPPORT FOR 'C6000 INCREASES:
Today there are over 200 third party products supporting the 'C6000

platform, with this number growing every day.  We are pleased to welcome
Ixthos, Inc., a wholly-owned subsididary of DY 4 Systems, Inc. as the most
recent addition to our third party network.

FOR MORE INFORMATION ABOUT 'C6000 DSPs:
-Register to attend a FREE DSP seminar near you at
  http://www.ti.com/sc/dspseminars
-Download 'C6000 FREE Evaluation Tools at http://www.ti.com/sc/c6000tools

## 16. ???TAPR EVM56002 Interface???

From: "Thomas M. Alldread" <tmaldred@mail.island.net>
Date: Mon, 28 Sep 1998 08:22:04 -0700
To: dsp@tapr.org
Message-ID: <360FA99C.DEC52370@mail.island.net>
Rendered body type: text/plain

Greetings to All on the TAPR DST mailing list:

I have been studying the TARP Interface schematics to gain an
understanding of the functions of the port B connections between the
56002 CPU, the interface and the transceivers. I have made the following
wiring cross connection chart for my own reference information. It may
be useful to others for program development and/or hardware trouble
shooting. I hope it is accurate but no guarantees implied! If anyone
notices an error please let me know and I will correct it.

==========

| MPU PIN ID | Function | LED Name | 0/C DRV | Port B# | Plug1 | IDC10# | Buffer | RAD1# | RAD2# |
|---|---|---|---|---|---|---|---|---|---|
| H0/PB0 | PTT1 | PTT1 | U2-8 | 14 | B0 | 2 | Q2 | 3~ | N/A |
| H1/PB1 | ??? | UP | U1-7 | 15 | B1 | N/A | N/A | N/A | N/A |
| H2/PB2 | ??? | DOWN | U1-3 | 12 | B2 | N/A | N/A | N/A | N/A |
| H3/PB3 | ??? | CAT | U2-5 | 13 | B3 | 9 | N/A | 5 | N/A |
| H4/PB4 | PTT2 | PTT2 | U1-8 | 10 | B4 | 8 | Q5 | N/A | 3~ |
| H5/PB5 | UP2 | UP2 | U1-6 | 11 | B5 | 10 | Q6 | N/A | 7~ |
| H6/PB6 | DOWN2 | DWN2 | U1-2 | 8 | B6 | 1 | Q1 | N/A | 6~ |
| H7/PB7 | UP1 | UP1 | U2-3 | 9 | B7 | 4 | Q3 | 7~ | N/A |
| HA0/PB8 | DOWN1 | DWN1 | U2-6 | 1 | B8 | 6 | Q4 | 6~ | N/A |
| HA1/PB9 | RTS | N/A | U1-5 | 3 | B9 | N/A | N/A | N/A | N/A |
| HA2/PB10 | DTR | N/A | U1-4 | 5 | B10 | N/A | N/A | N/A | N/A |
| HR/W~/PB11 | ??? | N/A | N/A | 6 | B11 | 9 | N/A | 5 | N/A |
| HEN~/PB12 | ??? | N/A | N/A | 4 | B12 | 3(10K) | N/A | N/A | 5 |
| HREQ~/PB13 | CXR DET | DCD | U2-4 | 7 | B13 | N/A | N/A | N/A | N/A |
| HACK~/PB14 | ??? | COP | U2-7 | 2 | B14 | N/A | N/A | N/A | N/A |
| | GND | | | 16 | | | | | |

Note: The '~' represents active low.

==========

I have the following questions which may overlap somewhat:

1) What is the purpose of the Radio 1 and Radio 2 pin 5 connections
that connect to PB11 and PB12 respectively?

2) What does the abbreviation 'COP' (which is driven by PB14) stand for
and what is it typically used to indicate?

3) What does the abbreviation 'CAT' (which is driven by PB3)  stand for
and what is it typically used to indicate?

4) Why is the 'CAT' LED driver output connected directly to the PB11
port pin and the Radio 1 pin 5 connection?

5) Why doesn't Radio 2 have a similar direct connection to a port pin?

6) What is the purpose of the UP/DOWN indicators which are driven by
PB1/PB2?

Many thanks in advance for any helpful information!

73
Tom, VE7TMA

--
Very Best Regards,

Thomas M. Alldread

tmaldred@mail.island.net

## 17. ???TAPR EVM56002 Interface (Revision 1)???

From: "Thomas M. Alldread" <tmaldred@mail.island.net>
Date: Mon, 28 Sep 1998 09:10:26 -0700
To: dsp@tapr.org
Message-ID: <360FB4F2.5C883502@mail.island.net>
Rendered body type: text/plain

Greetings to All on the TAPR DSP mailing list:

OOPS! I noticed a typo, that the lines wrapped when I printed out my chart and that I forgot to ask one question so I have decided to revise my original post.

I have been studying the TARP Interface schematics (rev 2.0) to gain an understanding of the functions of the port B connections between the 56002 CPU, the interface and the transceivers. I have made the following wiring cross connection chart for my own reference information. It may be useful to others for program development and/or hardware trouble shooting. I hope it is accurate but no guarantees implied! If anyone notices an error please let me know and I will correct it.

==========

| MPU PIN Buffer | ID RAD1# | Function RAD2# | LED | 0/C DRV | Port B# | Plug1 | IDC10# |
|---|---|---|---|---|---|---|---|
| H0/PB0 | | PTT1 | PTT1 | U2-8 | 14 | B0 | 2 |
| Q2 | 3~ | N/A | | | | | |
| H1/PB1 | | ??? | UP | U1-7 | 15 | B1 | N/A |
| N/A | N/A | N/A | | | | | |
| H2/PB2 | | ??? | DOWN | U1-3 | 12 | B2 | N/A |
| N/A | N/A | N/A | | | | | |
| H3/PB3 | | ??? | CAT | U2-5 | 13 | B3 | 9 |
| N/A | 5 | N/A | | | | | |
| H4/PB4 | | PTT2 | PTT2 | U1-8 | 10 | B4 | 8 |
| Q5 | N/A | 3~ | | | | | |
| H5/PB5 | | UP2 | UP2 | U1-6 | 11 | B5 | 10 |
| Q6 | N/A | 7~ | | | | | |
| H6/PB6 | | DOWN2 | DWN2 | U1-2 | 8 | B6 | 1 |
| Q1 | N/A | 6~ | | | | | |
| H7/PB7 | | UP1 | UP1 | U2-3 | 9 | B7 | 4 |
| Q3 | 7~ | N/A | | | | | |
| HA0/PB8 | | DOWN1 | DWN1 | U2-6 | 1 | B8 | 6 |
| Q4 | 6~ | N/A | | | | | |
| HA1/PB9 | | RTS | N/A | U1-5 | 3 | B9 | N/A |
| N/A | N/A | N/A | | | | | |
| HA2/PB10 | | DTR | N/A | U1-4 | 5 | B10 | N/A |
| N/A | N/A | N/A | | | | | |
| HR/W~/PB11 | | ??? | N/A | N/A | 6 | B11 | 9 |
| N/A | 5 | N/A | | | | | |
| HEN~/PB12 | | ??? | N/A | N/A | 4 | B12 | 3(10K) |
| N/A | N/A | 5 | | | | | |
| HREQ~/PB13 | | CXR DET | DCD | U2-4 | 7 | B13 | N/A |
| N/A | N/A | N/A | | | | | |
| HACK~/PB14 | | ??? | COP | U2-7 | 2 | B14 | N/A |
| N/A | N/A | N/A | | | | | |
| | | GND | | | | 16 | |

Note: The '~' represents active low.

==========

I have the following questions which depending on the answers may overlap somewhat:

1) What is the purpose of the Radio 1 and Radio 2 pin 5 connections
that connect to PB11 and PB12 respectively?

2) What does the abbreviation 'COP' (which is driven by PB14)
stand for
and what is it typically used to indicate?

3) What does the abbreviation 'CAT' (which is driven by PB3)
stand for
and what is it typically used to indicate?

4) Why is the 'CAT' LED driver output connected directly to the
PB11
port pin and the Radio 1 pin 5 connection and why doesn't Radio 2 have a
similar
direct connection to a port pin?

5) The Radio 2 pin 5 connection to PB12 is current isolated and voltage
swing limited. Is there a reason for not isolating and limiting the
Radio 1 pin 5 to PB11 connection in a similar manner for MPU protection
purposes?

6) What is the purpose of the UP/DOWN indicators which are
driven by
PB1/PB2?

Many thanks in advance for any helpful information!

73
Tom, VE7TMA

tmaldred@mail.island.net

## 18. Motorola durbin1.asm example

From: Charles Brain <chbrain@dircon.co.uk>
Date: Mon, 28 Sep 1998 21:59:29 +0100
To: dsp@tapr.org
Message-ID: <360FF8B1.713A5029@dircon.co.uk>
Rendered body type: text/plain

Hi,

Has anyone used the Motorola Durbin1.asm example. What ever I
do I cannot get a set of stable reflection coefficients!
The algorithm seems to overflow internally.

I have managed to get the levinson one to work fine using
a set of normalised autocorrelation coefficients.

I want to use the Durbin code as it produces A coefficients
along with the RCs.

However I may end up having to write some code to convert
RCs to As (Pain!).

- Charles

## 19. Re: [DSP:1131] Motorola durbin1.asm example

From: Charles Brain <chbrain@dircon.co.uk>
Date: Mon, 28 Sep 1998 22:42:20 +0100
To: dsp@tapr.org
Message-ID: <361002BC.E252F0D5@dircon.co.uk>
Rendered body type: text/plain

Charles Brain wrote:
>
> Hi,
>
> Has anyone used the Motorola Durbin1.asm example. What ever I
> do I cannot get a set of stable reflection coefficients!
> The algorithm seems to overflow internally.
>
> I have managed to get the levinson one to work fine using
                           ^^^^^^^^

Whoops I mean't Leroux-Gueguen not Levinson.

> a set of normalised autocorrelation coefficients.
>
> I want to use the Durbin code as it produces A coefficients

> along with the RCs.
>
> However I may end up having to write some code to convert
> RCs to As (Pain!).
>
> - Charles

## 20. Re: [DSP:1132] Re: Motorola durbin1.asm example

From: "Teague, David" <kf4psc@conninc.com>
Date: Mon, 28 Sep 1998 20:53:19 -0000
To: <dsp@tapr.org>
Message-ID: <001c01bdeb22$06d54ee0$22f057cf@dteague>
Rendered body type: text/plain

please remove. thank's>
-----Original Message-----
From: Charles Brain <chbrain@dircon.co.uk>
To: dsp@tapr.org <dsp@tapr.org>
Date: Monday, September 28, 1998 9:58 PM
Subject: [DSP:1132] Re: Motorola durbin1.asm example


>Charles Brain wrote:
>>
>> Hi,
>>
>> Has anyone used the Motorola Durbin1.asm example. What ever I
>> do I cannot get a set of stable reflection coefficients!
>> The algorithm seems to overflow internally.
>>
>> I have managed to get the levinson one to work fine using
>                           ^^^^^^^^
>Whoops I mean't Leroux-Gueguen not Levinson.
>
>> a set of normalised autocorrelation coefficients.
>>
>> I want to use the Durbin code as it produces A coefficients
>> along with the RCs.
>>
>> However I may end up having to write some code to convert
>> RCs to As (Pain!).
>>
>> - Charles

## 21. In the beginning

From: john.clark@state.co.us
Date: Mon, 28 Sep 1998 20:44:57 -0600
To: <dsp@tapr.org>
Message-ID: <c=US%a=_%p=Colorado%l=EXCHANGE1-980929024457Z-98036@exchange1.state.co.us>
Rendered body type: text/plain

I'm just starting into DSP.

I have read "Understanding DSP" by Richard Lyons, got a DSP56002 EVM,
have a TAPR DSP box on order.

It is now time to think about what I would like to do, and ask for all
the help I can find. I'm no engineer.
I could understand the concepts in Lyon's book but much of the math is
over my head.
I haven't had to work code at such a low level since my 8080 but I think
I can still
Assemble, Link & go if I can tag along with some of you here.

A general coverage receiver that can pull an S5 out of all of the QRM
and a CW translator I think
could keep me interested for a couple of years. I prefer to build what I
operate.

First question

I have been reading the R2 articles --  Could the 56002 be used as the
LO too ?

2.      I can guess that the 56002 , or should I say the A-to-D can not run
at RF rates, but with
the direct conversion, can't the DSP do the 90 degree shift for the I &
Q ? Just do it all in the DSP?

3.  How far away are we from having DSP systems & the ATD that can work at RF rates?

4.  Are there self adjusting filters that could learn to drop all the QRM for code?  For voice ?

5.  Are others of you working on a similar path?

Please, also pass along any ideas or experiences that you believe will benefit my education.

John Clark
N0URE

## 22. Re: [DSP:1134] In the beginning

From: Tim Baggett <tim@dsp.sps.mot.com>
Date: Tue, 29 Sep 1998 17:20:51 -0500 (CDT)
To: dsp@tapr.org
Message-ID: <9809292204.AA26232@dsp.sps.mot.com>
Rendered body type: text/plain

> I'm just starting into DSP.

Congrats!

> I haven't had to work code at such a low level since my 8080 but I think
> I can still
> Assemble, Link & go if I can tag along with some of you here.

A lot of DSP is still done in assembly for efficency. However modern DSPs are much faster, and compiler technology is improving for DSP, so there is a shift to higher level languages.

For the DSP56002, I would recommend sticking with Assembly. The GNU C Compiler for the 56002 does not produce very good code.

>
> A general coverage receiver that can pull an S5 out of all of the QRM
> and a CW translator I think
> could keep me interested for a couple of years. I prefer to build what I
> operate.
>
> First question
>
> I have been reading the R2 articles --  Could the 56002 be used as the
> LO too ?
>
> 2.  I can guess that the 56002 , or should I say the A-to-D can not run
> at RF rates, but with
> the direct conversion, can't the DSP do the 90 degree shift for the I &
> Q ? Just do it all in the DSP?

The CODEC on the DSP56002 will sample up to 44.1 Ksps out of the box. With a change of the crystal, you can sample up to 50 Ksps - max.

>
> 3.  How far away are we from having DSP systems & the ATD that can work
> at RF rates?

They are here. Some A/D's sample up in the Gsps. For example, Gage has data aquisition boards up in the hundreds of Msps. But be prepared to give a kidney and perhaps a lung for them!

The DSP is also a limiting factor, but becoming increasingly less as technology improves. For super high rate DSP, typically one would implement it in a FPGA. Xilinx is really pushing this technology, and it looks quite impressive.

Also, you have to remember the Nyquist Criteria. Many folks only remember the rule to sample at twice the rate of your highest frequency.

For example, if Fh is the highest frequency in your signal, Fs is the sample rate, and Fn is the nyquist rate (Fn=1/2 Fs). Then:

Fs > 2*Fh to avoid aliasing.

But in this case you miss the real idea behind aliasing!

Lets say your signal only exists from Fl to Fh, where Fl is the lowest
frequency component of your signal.

Now, your sample rate only needs to be:

Fs > 2*(Fh-Fl)

Lets say your radio has an IF of 455 KHz, and a bandwidth of 30 KHz.
The IF signals exist between 440-470 KHz. You can sample at 200 Ksps
without destroying your signal! You signal will be aliased down to the
range of 40-70 KHz. You just sampled you IF and downconverted it! This
will work only of there are nofrequency components between DC and 400
KHz. Note that in this example DC, 200 KHz and 400 KHz will all alias
down to the same point - DC. So if nothing is present at DC or 200 KHz
in the original signal, anything at 400 KHZ will be downconverted to DC
after sampling.

There is no need to grossly oversample a signal.

>
> 4.    Are there self adjusting filters that could learn to drop all the QRM
> for code?  For voice ?

Yes, see the QRMQRN code done by the Alef Null group in Europe. You can
download the code from the TAPR Web site www.tapr.org/html/dsp I
believe.

>
> 5.    Are others of you working on a similar path?

I'm slowly working on a soft-radio usingthe approach above. I build an
800 Ksps A/D for the DSP56303 EVM for a NASA project for New Mexico
State University. However, it has really taken a back seat to the
original application to detect satellite doppler shift on a 100 Ksps
wide signal (doppler +- 50KHz), and the associated tech report.

73,
Tim


---
Tim Baggett                          Motorola Semiconductor Products
Email: tim@dsp.sps.mot.com           Digital Radio Systems / WSSG
Internal: RA5367@email               6501 William Cannon Dr West
Phone:    (512) 895-6718             Austin, Texas 78735-8598
FAX:      (512) 895-4665             http://www.mot.com/SPS/DSP
---


## 23. Re: [DSP:1134] In the beginning

From: frohro@wwc.edu
Date: Tue, 29 Sep 1998 16:45:50 -0700 (PDT)
To: dsp@tapr.org
Message-ID: <199809292345.QAA11590@vernon.wwc>
Rendered body type: text/plain

Hi John,

I assume you read my QST article back in April.  If you haven't,
take a look at my web page.  (http://www.wwc.edu/~frohro/) and follow
the links.  As to using the DSP as the LO, I was already using the
D/A converters, and the highest frequency you could tune that way
would be in the high audio range.  I suggest you investigate the
Anaolg Devices 9850 NCO.  It is most timpting.

73,

Rob< KL7NA
>
>
>
>
> I'm just starting into DSP.

>
> I have read "Understanding DSP" by Richard Lyons, got a DSP56002 EVM,
> have a TAPR DSP box on order.
>
> It is now time to think about what I would like to do, and ask for all
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> I could understand the concepts in Lyon's book but much of the math is
> over my head.
> I haven't had to work code at such a low level since my 8080 but I think
> I can still
> Assemble, Link & go if I can tag along with some of you here.
>
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> could keep me interested for a couple of years. I prefer to build what I
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>
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>
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> LO too ?
>
> 2.    I can guess that the 56002 , or should I say the A-to-D can not run
> at RF rates, but with
> the direct conversion, can't the DSP do the 90 degree shift for the I &
> Q ? Just do it all in the DSP?
>
> 3.    How far away are we from having DSP systems & the ATD that can work
> at RF rates?
>
> 4.    Are there self adjusting filters that could learn to drop all the QRM
> for code?  For voice ?
>
> 5.    Are others of you working on a similar path?
>
> Please, also pass along any ideas or experiences that you believe will
> benefit my education.
>
>
> John Clark
> N0URE
>
>

## 24. Re: [DSP:1129] ???TAPR EVM56002 Interface???

From: Lyle Johnson <lylej@azstarnet.com>
Date: Tue, 29 Sep 1998 20:09:06 -0700
To: dsp@tapr.org
Message-ID: <3.0.5.32.19980929200906.00977c00@pop.azstarnet.com>
Rendered body type: text/plain

>       2) What does the abbreviation 'COP' (which is driven by PB14) stand for
>and what is it typically used to indicate?

Computer OPerating Properly.  Some application code may toggle this LED at
a slow rate so you can observe it and determine if the DSP has "crashed" or
not.

>       3) What does the abbreviation 'CAT' (which is driven by PB3)  stand for
>and what is it typically used to indicate?

Computer Aided Tuning.  THis is for radio interfaces to Yaesu, Kenwood,
Icom or other radios that can be remotely controlled by the software
running in the DSP.

>       4) Why is the 'CAT' LED driver output connected directly to the PB11
>port pin and the Radio 1 pin 5 connection?

So the LED can be used for other purposes if you are not using an
application that provides CAT control.  The conenction to Radio 1 pin 5 is
so you can run a radio (and ignore the LED).

>       6) What is the purpose of the UP/DOWN indicators which are driven by
>PB1/PB2?

These are for "mic click" doppler tracking of various radios.

***

Remember, all of these outputs and LEDs are under software control.  SOme
application smay use various combinations of them.

Enjoy!

Lyle

## 25. Re: [DSP:1135] Re: In the beginning

From: Thomas Sailer <sailer@ife.ee.ethz.ch>
Date: Wed, 30 Sep 1998 09:21:32 +0200
To: dsp@tapr.org
Message-ID: <3611DBFC.579BB25@ife.ee.ethz.ch>
Rendered body type: text/plain

Tim Baggett wrote:

> A lot of DSP is still done in assembly for efficency. However modern
> DSPs are much faster, and compiler technology is improving for DSP, so
> there is a shift to higher level languages.

Also, DSP architectures are improving towards making it easier
for the compiler. Older esp. fixed point DSP archs are a pain
in the neck when it comes to reload: address generation for
reload often trashes several registers. Also, the lack of orthogonality
in the instruction set also makes it difficult for the compiler.

Tom

## 26. Fwd: Texas Instruments' Seminars Present the Latest Developments in DSP, Analog Technologies

From: "Greg Jones, WD5IVD" <wd5ivd@tapr.org>
Date: Wed, 30 Sep 1998 13:40:08 -0500
To: " TAPR/AMSAT DSP "<dsp@tapr.org>
Message-ID: <v04011702b2382b858d29@[207.8.125.50]>
Rendered body type: text/plain

>Date: Wed, 30 Sep 1998 14:19:25 -0400
>From: Texas Instruments <ti@dsp2.dspnet.com>
>Subject: Texas Instruments' Seminars Present the Latest Developments in
>DSP, Analog Technologies
>Status:
>
>  Texas Instruments is presenting a new series of free two-day seminars on
>its latest digital signal processing (DSP) and analog technologies and
>products. Day-one attendees will learn how TI's TMS320C5000 and 'C6000 DSP
>platforms can advance product innovation and deliver cost savings at the
>device and systems level. Day-two attendees will learn how TI's analog and
>mixed-signal products, including amplifiers, data converters, power-
>management and data transmission devices, deliver significant strategic
>advantages.
>  In addition, attendees will learn how TI can help them get their
>products to market faster, at lower costs and with greater differentiation.
>Free and discounted development tools will be available to attendees.
>  For more information or to register, call 1-800-477-8924 extension 1998, or
>visit TI's web site at:  http://www.ti.com/sc/wwseminars
>
>DATES & LOCATIONS
>
>North America
>        Sept. 28-29     Philadelphia, PA
>        Sept. 29-30     Baltimore, MD
>        Oct. 1-2        Atlanta, GA
>        Oct. 5-6        Orlando, FL
>        Oct. 6-7        Dallas, TX
>        Oct. 7-8        Minneapolis, MN
>        Oct. 8-9        Cleveland, OH
>        Oct. 12-13      Chicago, IL
>        Oct. 13-14      Detroit, MI
>        Oct. 14-15      Toronto, Canada
>        Oct. 15-16      Houston, TX
>        Oct. 19-20      Denver, CO
>        Oct. 20-21      Phoenix, AZ
>        Oct. 21-22      Seattle, WA
>        Oct. 22-23      Woodland Hills, CA
>        Oct. 27-28      San Jose, CA
>        Oct. 28-29      Newport Beach, CA
>        Oct. 29-30      San Diego, CA
>        Nov. 2-3        Boston, MA

```
>        Nov. 3-4        Raleigh, NC
>        Nov. 4-5        Rochester, NY
>        Nov. 5-6        Fairfield, NJ
>
>South America
>        Nov. 10-11      Sao Paulo, Brazil
>        Nov. 12-13      Porto Alegre, Brazil
>
>Europe
>        Oct. 7          Budapest, Hungary
>        Oct. 12-13      Manchester, UK
>        Oct. 13-14      London, UK
>        Oct. 14-15      Stockholm, Sweden
>        Oct. 15         Aarhus, Denmark
>        Oct. 26         Milan, Italy
>        Oct. 26         Munich, Germany
>        Oct. 27-28      Lyon, France
>        Oct. 27-28      Hannover, Germany
>        Oct. 28         Paris, France
>        Oct. 28-29      Utrecht, Netherlands
>        Oct. 29         Brussels, Belgium
>        Oct. 29         Madrid, Spain
>        Nov. 3-4        Tel Aviv, Israel
>        Dec. 9          Moscow, Russia
>
>
>Thank you,
>Texas Instruments
>
>###
>
-----
Greg Jones, WD5IVD                Austin, Texas
wd5ivd@tapr.org      http://www.tapr.org/~wd5ivd
```

# October 1998

Original source file: dsp.9810
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/dspsig/mail_archive/dsp.9810

## 1. lost news server

From: john.clark@state.co.us
Date: Fri, 2 Oct 1998 19:46:02 -0600
To: <dsp@tapr.org>
Message-ID: <c=US%a=_%p=Colorado%l=EXCHANGE1-981003014602Z-104368@exchange1.state.co.us>
Rendered body type: text/plain

I've lost the free news server I was using.

Anyone know of others?

73

John
N0URE

## 2. AD607 ?

From: john.clark@state.co.us
Date: Sat, 3 Oct 1998 18:45:12 -0600
To: <dsp@tapr.org>
Message-ID: <c=US%a=_%p=Colorado%l=EXCHANGE1-981004004512Z-104446@exchange1.state.co.us>
Rendered body type: text/plain

Is anyone doing anything with the AD607
frontending DSP?

73
John
N0URE

## 3. Re: [DSP:1141] AD607 ?

From: Jake Janovetz <janovetz@tempest.ece.uiuc.edu>
Date: Sat, 3 Oct 1998 21:01:56 -0500
To: dsp@tapr.org
Message-ID: <19981003210156.00787@tempest.ece.uiuc.edu>
Rendered body type: text/plain

John,

   I've used the AD607 successfully as a front-end downconverter
for the DSP.  I have done both carrier recovery on the DSP
(the AD607 brings the signal to a low IF (50 kHz or so) and
the DSP does carrier recovery) and through the AD607 quadrature
demodulator (the DSP sends digital signals to a DDS (direct
digital synthesis) chip to generate a carrier around 10.7 MHz
that goes to the AD607).
   Both methods have worked very well and the AD607 works
pretty much as advertised.  Nice chip...

    Cheers,
    Jake

On Sat, Oct 03, 1998 at 07:48:51PM -0500, john.clark@state.co.us wrote:
> Is anyone doing anything with the AD607
> frontending DSP?
>
>
> 73
> John
> N0URE

--
   janovetz@uiuc.edu    | Once you have flown, you will walk the earth with
 University of Illinois | your eyes turned skyward, for there you have been,
                        | there you long to return.     -- da Vinci
        PP-ASEL         | http://www.ews.uiuc.edu/~janovetz/index.html

## 4. RE: [DSP:1142] Re: AD607 ?

From: john.clark@state.co.us
Date: Sat, 3 Oct 1998 20:36:47 -0600
To: <dsp@tapr.org>
Message-ID: <c=US%a=_%p=Colorado%l=EXCHANGE1-981004023647Z-104447@exchange1.state.co.us>
Rendered body type: text/plain

Jake,

do you have a block or schematic diagram of your AD607/DSP/DDS you can
post here?

John


-----Original Message-----
From: Jake Janovetz [mailto:janovetz@tempest.ece.uiuc.edu]
Sent: Saturday, October 03, 1998 8:04 PM
To: dsp@tapr.org
Subject: [DSP:1142] Re: AD607 ?


John,

   I've used the AD607 successfully as a front-end downconverter
for the DSP.  I have done both carrier recovery on the DSP
(the AD607 brings the signal to a low IF (50 kHz or so) and
the DSP does carrier recovery) and through the AD607 quadrature
demodulator (the DSP sends digital signals to a DDS (direct
digital synthesis) chip to generate a carrier around 10.7 MHz
that goes to the AD607).
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pretty much as advertised.  Nice chip...

    Cheers,
    Jake


On Sat, Oct 03, 1998 at 07:48:51PM -0500, john.clark@state.co.us wrote:
> Is anyone doing anything with the AD607
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>
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> John
> N0URE

--
   janovetz@uiuc.edu    | Once you have flown, you will walk the earth
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 University of Illinois | your eyes turned skyward, for there you have
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                        | there you long to return.     -- da Vinci
        PP-ASEL         | http://www.ews.uiuc.edu/~janovetz/index.html

## 5. EVM extended memory (again)

From: Charles Brain <chbrain@dircon.co.uk>
Date: Sun, 04 Oct 1998 11:34:07 +0100
To: "dsp@tapr.org" <dsp@tapr.org>
Message-ID: <36174F1F.CE3BAB38@dircon.co.uk>
Rendered body type: text/plain

Hello All,

Sometime ago there was a thread about an external memory board
for the 56002EVM, did anything come of it?

- Charles


*** PLEASE *****

If you want to unsubscribe from this list, send the message to the
listserver and not the list itself, or go to the TAPR Web site and
unsubscribe from there.

http://www.tapr.org/tapr/html/sigs.html

## 6. Re: [DSP:1143] Re: AD607 ?

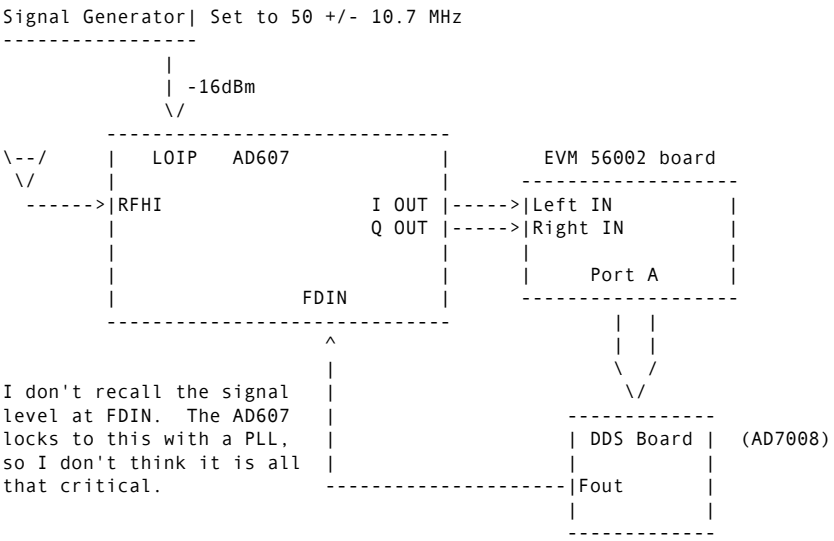
From: Jake Janovetz <janovetz@tempest.ece.uiuc.edu>
Date: Sun, 4 Oct 1998 10:42:02 -0500
To: dsp@tapr.org
Message-ID: <19981004104202.54441@tempest.ece.uiuc.edu>
Rendered body type: text/plain

John,

  Unfortunately I don't have anything drawn up except for the
DDS board module to the 56002EVM.  I'll try to get a PostScript
dump of that and post it here.
  As for the AD607, I can give you a text block diagram.  I used
the AD607 evaluation board, but it's so simple, you should have no
trouble building a board around it.

Note: None of this was optimized for input/output levels anywhere...
      I just wanted to see how things would work, so I rigged up a
      quick QPSK transmitter and demodulated it on another board
      (wireless transmission).

      I was transmitting a random sequence at 50MHz at low power
      (across the room).




There were two designs:

1. The DDS is programmed for 10.7 MHz - 12 kHz to place the incoming
   signal at a low IF (12 kHz) for the DSP.  The DSP then samples at
   48kHz which places the signal at pi/2.  The DSP then has a
   NCO (numerically controlled oscillator) that locks onto the QPSK
   signal using a Costas Loop PLL.  I then demodulate the baseband I/Q.
   (only one of the signals input to the DSP is necessary since phase
   is unknown at this point)

2. The DDS is programmed for a center frequency of 10.7 MHz, but now
   the DSP controls the DDS rather than an NCO.  The signals input to
   the DSP should now be baseband I/Q.


I have code sitting around for these designs.  The code was incomplete,
of course, becuase I was just testing the idea.  If you want it, let me
know.  Unfortunately, I never did any tests on how good the receiver is
as far as Noise Figure, etc.  The AGC makes some of this difficult.

I'll try to find my DDS board schematics.  They're pretty simple, but
having a DDS at the beck and call of a DSP is a wonderful thing!
We have them transmit all sorts of modulation formats including QAM,
FM, AM, etc.  They only go up to about 14 MHz, but the output is
unfiltered so the "spurs" or artifacts due to zero-order hold means
that the DDS puts signal all over the spectrum.  Therefore, it must
be filtered before going through an amp.  In any case, it means we can
transmit anywhere we want without upconverting.  (The stuff I've tested
has been so low power, it doesn't even go outside the room, so I'm not
doing anything illegal... :-)

Cheers,
Jake

On Sat, Oct 03, 1998 at 09:40:16PM -0500, john.clark@state.co.us wrote:
> Jake,
>
> do you have a block or schematic diagram of your AD607/DSP/DDS you can
> post here?
>
> John
>
>
> -----Original Message-----
> From: Jake Janovetz [mailto:janovetz@tempest.ece.uiuc.edu]
> Sent: Saturday, October 03, 1998 8:04 PM
> To: dsp@tapr.org
> Subject: [DSP:1142] Re: AD607 ?
>
>
> John,
>
>    I've used the AD607 successfully as a front-end downconverter
> for the DSP.  I have done both carrier recovery on the DSP
> (the AD607 brings the signal to a low IF (50 kHz or so) and
> the DSP does carrier recovery) and through the AD607 quadrature
> demodulator (the DSP sends digital signals to a DDS (direct
> digital synthesis) chip to generate a carrier around 10.7 MHz
> that goes to the AD607).
>    Both methods have worked very well and the AD607 works
> pretty much as advertised.  Nice chip...
>
>     Cheers,
>     Jake
>
>
> On Sat, Oct 03, 1998 at 07:48:51PM -0500, john.clark@state.co.us wrote:
> > Is anyone doing anything with the AD607
> > frontending DSP?
> >
> >
> > 73
> > John
> > N0URE
>
> --
>    janovetz@uiuc.edu    | Once you have flown, you will walk the earth
> with
>  University of Illinois | your eyes turned skyward, for there you have
> been,
>                         | there you long to return.     -- da Vinci
>         PP-ASEL         | http://www.ews.uiuc.edu/~janovetz/index.html

--
   janovetz@uiuc.edu    | Once you have flown, you will walk the earth with
 University of Illinois | your eyes turned skyward, for there you have been,
                        | there you long to return.     -- da Vinci
        PP-ASEL         | http://www.ews.uiuc.edu/~janovetz/index.html

## 7. Re: [DSP:1144] EVM extended memory (again)

From: forrerj@peak.org (Johan Forrer)
Date: Sun, 04 Oct 1998 09:23:41 -0800
To: dsp@tapr.org
Message-ID: <199810041626.JAA24975@peak.org>
Rendered body type: text/plain

Charles,

I posted my design of such a beast on the TAPR software library
some time ago. I think There is a pointer on Eduoardo's web page to
it. If you dont find it, I'll dig it out.

It basically involved adding a couple of 32K x 8 SRAM (12 ns)
chache chips from a PC  and making some very minor mods to
the EVM to map it into the address space. I made a PAL to
do address decoding. Worked just fine except that I could not
make it run reliably at zero wait states. A few other things that
created problems with existing software was; use of on-chip vs.
external low RAM, and the FLASH space.

I also have a solution that a fellow in Germany did -- there he used a
couple of 128K cache chips and did away with the address decoder
and could run with zero wait states. That meant hacking the board
a lot more, but man has to do what he has to do?

Let me know if you are further interested.

Johan

>
>Sometime ago there was a thread about an external memory board
>for the 56002EVM, did anything come of it?
>
>- Charles
>
>
>*** PLEASE *****
>
>If you want to unsubscribe from this list, send the message to the
>listserver and not the list itself, or go to the TAPR Web site and
>unsubscribe from there.
>
>http://www.tapr.org/tapr/html/sigs.html
>
>
>

## 8. Re: [DSP:1143] Re: AD607 ?

From: Jake Janovetz <janovetz@tempest.ece.uiuc.edu>
Date: Mon, 5 Oct 1998 09:14:37 -0500
To: dsp@tapr.org
Message-ID: <19981005091437.63172@tempest.ece.uiuc.edu>
Rendered body type: text/plain

John, (and anyone else interested)

  I placed most of the information I have (including schematics and
code) at the following place:

http://tempest.ece.uiuc.edu/~janovetz/ad607.html

  I just threw it together, so it's pretty bare-bones, but most of my
web pages are like that anyhow.  I wanted to get it up before
interest waned.  :-)


     Cheers,
     Jake

--
   janovetz@uiuc.edu    | Once you have flown, you will walk the earth with
 University of Illinois | your eyes turned skyward, for there you have been,
                        | there you long to return.     -- da Vinci
        PP-ASEL         | http://www.ews.uiuc.edu/~janovetz/index.html

## 9. DSP56002 Assembler/Debugger Project?

From: Jake Janovetz <janovetz@tempest.ece.uiuc.edu>
Date: Mon, 5 Oct 1998 09:19:28 -0500
To: dsp@tapr.org
Message-ID: <19981005091928.44432@tempest.ece.uiuc.edu>
Rendered body type: text/plain

Hi everyone.

   I was wondering if anyone is interested in getting together a
home-brew assembler for the 56k family of DSPs.  I'm sure a lot of
you are painfully aware that Motorola refuses to port their assembler
to Linux and this really ticks me off.
   The public domain assemblers that are out there need a bit of
work to make them comparable to the Motorola assembler.  In addition,
it would be nice to have a debugger environment written for Linux.
(one that interfaces to the EVM).

    If anyone is interested in doing something like this, let me know.
Several years back, I started work on the assembler/disassembler.  The
disassembler is in pretty good shape, but the assembler was mainly
a project that told me: "Jake, you don't know lex/yacc very well"

```
    I don't even know how much time I'd have to spend on it, but
think there are enough people interested in such a beast as to make
it worthwhile.  It's quite a shame that Motorola hasn't recognized the
need.


    Cheers,
    Jake

--
   janovetz@uiuc.edu    | Once you have flown, you will walk the earth with
 University of Illinois | your eyes turned skyward, for there you have been,
                        | there you long to return.     -- da Vinci
        PP-ASEL         | http://www.ews.uiuc.edu/~janovetz/index.html
```

## 10. RE: [DSP:1148] DSP56002 Assembler/Debugger Project?

```
From: "Johan S. Sosa" <johan@unixville.com>
Date: Mon, 5 Oct 1998 12:14:05 -0400
To: <dsp@tapr.org>
Cc: <janovetz@uiuc.edu>
Message-ID: <001f01bdf07b$2c4cdb80$edc74cc7@snoopdogg.expressweb.com>
Rendered body type: text/plain
```

```
I would be interested.

-Johan
johan@unixville.com


> -----Original Message-----
> From: dsp@tapr.org [mailto:dsp@tapr.org]On Behalf Of Jake Janovetz
> Sent: Monday, October 05, 1998 10:24 AM
> To: dsp@tapr.org
> Subject: [DSP:1148] DSP56002 Assembler/Debugger Project?
>
>
> Hi everyone.
>
>    I was wondering if anyone is interested in getting together a
> home-brew assembler for the 56k family of DSPs.  I'm sure a lot of
> you are painfully aware that Motorola refuses to port their assembler
> to Linux and this really ticks me off.
>    The public domain assemblers that are out there need a bit of
> work to make them comparable to the Motorola assembler.  In addition,
> it would be nice to have a debugger environment written for Linux.
> (one that interfaces to the EVM).
>
>     If anyone is interested in doing something like this, let me know.
> Several years back, I started work on the assembler/disassembler.  The
> disassembler is in pretty good shape, but the assembler was mainly
> a project that told me: "Jake, you don't know lex/yacc very well"
>
>     I don't even know how much time I'd have to spend on it, but
> think there are enough people interested in such a beast as to make
> it worthwhile.  It's quite a shame that Motorola hasn't recognized the
> need.
>
>
>     Cheers,
>     Jake
>
> --
>    janovetz@uiuc.edu    | Once you have flown, you will walk the
> earth with
>  University of Illinois | your eyes turned skyward, for there you
> have been,
>                         | there you long to return.     -- da Vinci
>         PP-ASEL         | http://www.ews.uiuc.edu/~janovetz/index.html
>
```

## 11. Re: [DSP:1148] DSP56002 Assembler/Debugger Project?

```
From: Brahim HAMADICHAREF <brahim@rome.cis.plym.ac.uk>
Date: Mon, 05 Oct 1998 17:53:45 +0100
To: dsp@tapr.org
Message-ID: <3618F999.68F0AACA@cis.plym.ac.uk>
Rendered body type: text/plain
```

```
Hi Jake
```

Read ftp://ftp.pfnet.com/pub/m56k/README

I'm you'll be interested !

I am using NT but I am interested in 56x0x code optimisation so the
idea of an assembler project is interesting. I have not much time
for it but still if I can find some way to help.

Jake Janovetz wrote:
>
> Hi everyone.
>
>    I was wondering if anyone is interested in getting together a
> home-brew assembler for the 56k family of DSPs.  I'm sure a lot of
> you are painfully aware that Motorola refuses to port their assembler
> to Linux and this really ticks me off.
>    The public domain assemblers that are out there need a bit of
> work to make them comparable to the Motorola assembler.  In addition,
> it would be nice to have a debugger environment written for Linux.
> (one that interfaces to the EVM).
>
>     If anyone is interested in doing something like this, let me know.
> Several years back, I started work on the assembler/disassembler.  The
> disassembler is in pretty good shape, but the assembler was mainly
> a project that told me: "Jake, you don't know lex/yacc very well"
>
>     I don't even know how much time I'd have to spend on it, but
> think there are enough people interested in such a beast as to make
> it worthwhile.  It's quite a shame that Motorola hasn't recognized the
> need.
>
>     Cheers,
>     Jake
>
> --
>    janovetz@uiuc.edu    | Once you have flown, you will walk the earth with
>  University of Illinois | your eyes turned skyward, for there you have been,
>                         | there you long to return.     -- da Vinci
>         PP-ASEL         | http://www.ews.uiuc.edu/~janovetz/index.html

--
Brahim Hamadicharef - SECEE, University of Plymouth, England
URL: http://www.cis.plym.ac.uk/cis/brahim/   ICQ: 17232538
ComputerMusic/DSP/Electronics/TX16W/D10/Stamps/Kites/X-Files

## 12. Re: Morse code decoding

From: "Louis Cobet" <louis_cobet@email.msn.com>
Date: Tue, 6 Oct 1998 21:03:12 -0700
To: <dsp@tapr.org>
Message-ID: <000101bdf1ab$452b2900$68242599@hp-customer>
Rendered body type: text/plain

Has anyone done any DSP work with Morse code? I would like to see how it was
approached in a DSP program.

Louis Cobet, K6MDH
louis_cobet@email.msn.com

## 13. MELP Info

From: Charles Brain <chbrain@dircon.co.uk>
Date: Wed, 14 Oct 1998 08:37:48 +0100
To: "dsp@tapr.org" <dsp@tapr.org>
Message-ID: <362454CC.4E202A4E@dircon.co.uk>
Rendered body type: text/plain

Hello,

If anyone is interested in low rate speech coding, details of the
new U.S gov standard for 2400 bps operation have been published.

Also included is an implementation in C and C50 DSP.

http://www.plh.af.mil/ddvpc/melp.htm

I have only just found the stuff and have not had time to read it
yet.

- Charles

## 14. New version of PSK31 for the EasyDSP

From: Eduardo Jacob <jtpjatae@bicc00.bi.ehu.es>
Date: Thu, 15 Oct 1998 13:16:52 +0200
To: psk31@bipt106.bi.ehu.es
Message-ID: <3.0.5.32.19981015131652.008693e0@bicc00.bi.ehu.es>
Rendered body type: text/plain

I have just received a version of PSK31evm301 (just to remind you, the
latest version of PSK31 for the EVM on DOS) for the nice Motorola 56002
based EasyDSP.

        It's available here:

        ftp://det.bi.ehu.es/pub/ham/psk31/psk31eas301.zip

        Just to remind you, the psk31 homepage is at

        http://aintel.bi.ehu.es/psk31.html

        I don't have an EasyDSP unit, so I won't be able to solve you any
problems. You can take a look at it at

        http://ourworld.compuserve.com/homepages/HFFAX/toc32.htm

        Regards

        Eduardo/EA2BAJ
---------------------------------------------------------
Eduardo EA2BAJ
DSP and HAM:   http://det.bi.ehu.es/~jtpjatae/ham.html
VHF PACKET: EA2BAJ @ EA2URV
PGP Key avlb: Send email w/subject: PGPKEY
fingerprint : D8 FA 54 49 F7 40 BA AA 09 1A 73 40 A4 26 ED BD

## 15. Fw: New book on DSP for non-EEs

From: "Don Elsner" <elsner@csd.uwm.edu>
Date: Thu, 15 Oct 1998 20:34:05 -0500
To: <dsp@tapr.org>
Message-ID: <006e01bdf8a5$10862140$040120c0@don>
Rendered body type: text/plain

this is a post from comp.dsp by one of the authors of the book.  I have read
this book and cannot say enough good things about it!  It is an EXCELLENT
book and I have a pretty good library!  the title is misleading though.  I
would say that 85% of the book is on general signal processing and the last
15% is about implementig algrothims on the 68H16 - even the implementation
material is excellent.  While the author apologizes about the price, any
engineering student knows that $60 for an engineering text nowadays is a
bargain!  (many of my books are in the $100 / book range)
GET THIS BOOK!
73 - don ks9f

elsner@csd.uwm.edu


-----Original Message-----
From: Dale Grover <dgrover@redcedar.com>
Newsgroups: comp.dsp
Date: Thursday, October 15, 1998 3:50 PM
Subject: New book on DSP for non-EEs


>Prentice Hall has just published a new book by myself and
>Jack Deller that some folks on this group might find useful.
>"Digital Signal Processing and the Microcontroller" was
>written
>for Motorola so embedded systems programmers could learn the
>basics of DSP, along with practical issues so that they
>could use Motorola microcontrollers (like the MC68HC16) to
>implement DSP.  Friendly, intuitive approach (we hope!).
>
>Most of what we say is applicable at any level, though doing
>DSP on microcontrollers is a bit more challenging.  The
>presentation avoids calculus, but does bring in complex
>numbers.  Bottom line--might be of interest to folks who
>do not have a linear signals & systems background, and/or
>folks who need to actually implement filters, especially in
>restrictive hardware.
>

>Topics include digital filters
>(FIR & IIR), frequency analysis, correlation, synthesizing
>signals & approximating functions, and some microcontroller
>implementation issues.  Lots of code & manuals (in PDF) on
>CDROM.  About $60 (ouch, sorry*) from Prentice Hall or
>Amazon.  More details, along with errata for book and
>table of symbols used, at my website at
>http://www.redcedar.com.
>
>(The table of symbols might be useful to anyone... you can
>get it in Acrobat format directly here:
>http://www.redcedar.com/castofch.pdf (about 22k).  Most of
>the
>symbol usage is fairly consistent with traditional texts.)
>
>US folks can also order the book at the above website.
>comp.dsp
>readers pay $55 through the end of November.  Readers of
>both
>comp.dsp and rec.crafts.metalworking are invited over for
>a cold one.  Educators can get review copies through normal
>Prentice Hall channels.
>
>(*While Jack and I receive no royalty on book sales, it's
>got
>to be better than the poor souls whose contracts end up
>with them being *charged* if sales don't meet certain
>levels!)
>
>Thanks for your kind attention.
>
>--
>Dale Grover             (517) 374-7966 (voice)
>Red Cedar Electronics   (517) 374-9676 (fax)
>Lansing, MI  USA        dgrover@redcedar.com

## 16. Re: [DSP:1154] Fw: New book on DSP for non-EEs

From: "Steve Taft" <steve@taft.net>
Date: Fri, 16 Oct 1998 15:07:34 -0400
To: <dsp@tapr.org>
Message-ID: <001101bdf938$3cbac5c0$0200a8c0@staft>
Rendered body type: text/plain

Folks:

     Just as an FYI, I just ordered this text from Barnes & Noble via the
Internet for $48 plus shipping.  Amazon had it listed for $60.  I'm not
affiliated with either, just thought you might like to know.

tnx,
Steve Taft
KA1WX
-----Original Message-----
From: Don Elsner <elsner@csd.uwm.edu>
To: dsp@tapr.org <dsp@tapr.org>
Date: Thursday, October 15, 1998 21:53
Subject: [DSP:1154] Fw: New book on DSP for non-EEs


>this is a post from comp.dsp by one of the authors of the book.  I have
read
>this book and cannot say enough good things about it!  It is an EXCELLENT
>book and I have a pretty good library!  the title is misleading though.  I
>would say that 85% of the book is on general signal processing and the last
>15% is about implementig algrothims on the 68H16 - even the implementation
>material is excellent.  While the author apologizes about the price, any
>engineering student knows that $60 for an engineering text nowadays is a
>bargain!  (many of my books are in the $100 / book range)
>GET THIS BOOK!
>73 - don ks9f
>
>elsner@csd.uwm.edu
>
>
>-----Original Message-----
>From: Dale Grover <dgrover@redcedar.com>
>Newsgroups: comp.dsp
>Date: Thursday, October 15, 1998 3:50 PM
>Subject: New book on DSP for non-EEs

>
>
>>Prentice Hall has just published a new book by myself and
>>Jack Deller that some folks on this group might find useful.
>>"Digital Signal Processing and the Microcontroller" was
>>written
>>for Motorola so embedded systems programmers could learn the
>>basics of DSP, along with practical issues so that they
>>could use Motorola microcontrollers (like the MC68HC16) to
>>implement DSP.  Friendly, intuitive approach (we hope!).
>>
>>Most of what we say is applicable at any level, though doing
>>DSP on microcontrollers is a bit more challenging.  The
>>presentation avoids calculus, but does bring in complex
>>numbers.  Bottom line--might be of interest to folks who
>>do not have a linear signals & systems background, and/or
>>folks who need to actually implement filters, especially in
>>restrictive hardware.
>>
>>Topics include digital filters
>>(FIR & IIR), frequency analysis, correlation, synthesizing
>>signals & approximating functions, and some microcontroller
>>implementation issues.  Lots of code & manuals (in PDF) on
>>CDROM.  About $60 (ouch, sorry*) from Prentice Hall or
>>Amazon.  More details, along with errata for book and
>>table of symbols used, at my website at
>>http://www.redcedar.com.
>>
>>(The table of symbols might be useful to anyone... you can
>>get it in Acrobat format directly here:
>>http://www.redcedar.com/castofch.pdf (about 22k).  Most of
>>the
>>symbol usage is fairly consistent with traditional texts.)
>>
>>US folks can also order the book at the above website.
>>comp.dsp
>>readers pay $55 through the end of November.  Readers of
>>both
>>comp.dsp and rec.crafts.metalworking are invited over for
>>a cold one.  Educators can get review copies through normal
>>Prentice Hall channels.
>>
>>(*While Jack and I receive no royalty on book sales, it's
>>got
>>to be better than the poor souls whose contracts end up
>>with them being *charged* if sales don't meet certain
>>levels!)
>>
>>Thanks for your kind attention.
>>
>>--
>>Dale Grover             (517) 374-7966 (voice)
>>Red Cedar Electronics   (517) 374-9676 (fax)
>>Lansing, MI  USA        dgrover@redcedar.com
>

## 17. Fwd: (Form) Comments from your Home Page from

From: "Greg Jones, WD5IVD" <wd5ivd@tapr.org>
Date: Fri, 16 Oct 1998 14:50:34 -0500
To: " TAPR/AMSAT DSP "<dsp@tapr.org>
Message-ID: <v0401170cb24d53e940b3@[207.8.125.50]>
Rendered body type: text/plain

Question from Sydney W2ICZ

Please e-mail directly back to him.

Cheers - Greg

>From: W2ICZ@buffnet.net (by way of "Dorothy Jones, KA5DWR" <ka5dwr@tapr.org>)
>Subject: (Form) Comments from your Home Page from
>Mime-Version: 1.0
>Status:
>
>Name: Sydney F. Chiswell
>Callsign: W2ICZ
>Email: W2ICZ@buffnet.net
>
>Address: 76 Chardon Dr.

>
>City: Buffalo, NY. 14225-2314  USA
>
>
>---Comments----------------------------------------------------
>Need help on locating any group still working with the L.L.Grace DSP-12
>platform
>
-----
Greg Jones, WD5IVD                Austin, Texas
wd5ivd@tapr.org      http://www.tapr.org/~wd5ivd

## 18. (no subject)

From: "Yoyok Suwiryo" <suwiryo@tgl.mega.net.id>
Date: Sat, 17 Oct 1998 10:42:50 +0700
To: <dsp@tapr.org>
Message-ID: <008b01bdf980$71c7ede0$5ff595ca@suwiryo>
Rendered body type: text/plain

subscribe

## 19. Your new book on DSP for non-EEs

From: "Petro Basson" <petro@firga.sun.ac.za>
Date: Mon, 19 Oct 1998 09:32:13 GMT+0200
To: dsp@tapr.org
Message-ID: <17F5AB53AE@firga.sun.ac.za>
Rendered body type: text/plain

Prof Garth Milne, University of Stellenbosch, asked me to get him an
"inspection copy" of the book. How do I get this, and does it mean that
he would have to purchase the book to "inspect" it?
His e-mail address is: milne@firga.sun.ac.za if you would like to send
him some info.
Regards,
Me P Basson

Petro Basson
Internet: petro@firga.sun.ac.z     Tel: +27 (0)21-808-4936
Dept Electrical & Electronic Engineering,     Fax: +27 (0)21-808-4981
University of Stellenbosch, Stellenbosch, 7600

## 20. Re: [DSP:1158] DSP digest 424

From: "asdor" <asdor@netvision.net.il>
Date: Mon, 19 Oct 1998 14:11:29 +0200
To: <dsp@tapr.org>
Message-ID: <000601bdfb59$9bd48820$7892003e@laboratory>
Rendered body type: text/plain

-----Original Message-----
From: dsp@tapr.org <dsp@tapr.org>
To: dsp@tapr.org <dsp@tapr.org>
Date: éåí ùðé 19 àå÷èåáø 1998 09:08
Subject: [DSP:1158] DSP digest 424


>     DSP Digest 424
>
>Topics covered in this issue include:
>
>  1) Your new book on DSP for non-EEs
> by "Petro Basson" <petro@firga.sun.ac.za>
>
>---------------------------------------------------------------------
>
>Date: Mon, 19 Oct 1998 09:32:13 GMT+0200
>From: "Petro Basson" <petro@firga.sun.ac.za>
>To: dsp@tapr.org
>Subject: Your new book on DSP for non-EEs
>Message-ID: <17F5AB53AE@firga.sun.ac.za>
>
>Prof Garth Milne, University of Stellenbosch, asked me to get him an
>"inspection copy" of the book. How do I get this, and does it mean that
>he would have to purchase the book to "inspect" it?
>His e-mail address is: milne@firga.sun.ac.za if you would like to send
>him some info.
>Regards,
>Me P Basson
>

>Petro Basson
>Internet: petro@firga.sun.ac.z     Tel: +27 (0)21-808-4936
>Dept Electrical & Electronic Engineering,     Fax: +27 (0)21-808-4981
>University of Stellenbosch, Stellenbosch, 7600
>
>
>------------------------------
>
>End of DSP Digest 424
>**********************
>

## 21. Re: [DSP:1152] MELP Info

From: Douglas Braun <doug.braun@intel.com>
Date: Wed, 21 Oct 1998 11:40:18 +0300
To: dsp@tapr.org
Message-ID: <4.1.19981021111134.0094c870@cadev5.intel.com>
Rendered body type: text/plain

Hello all,

I grabbed the code for this (the C version), and it compiled fine on Linux and Win95.
By the way, the input/output audio file format is apparently raw PCM data, with 16-bit samples at
an 8000 Hz rate.

When I ran the encoder and decoder, I found the the resulting speech was
virtually indistinguishable from the original (and it seemed a lot BETTER than the
sample audio files from the web site), but the encoded file size was
about 4X larger than I expected.  Then I noticed that it was writing each
signed byte of output as a 32-bit value, so the output file was mostly zeros...
I am not sure if this is a bug or a feature, though.

This looks like a very promising piece of code, which would be easy
to integrate into various ham applications!

Doug
N1OWU


At 12:45 14/10/98 -0500, you wrote:
>Hello,
>
>If anyone is interested in low rate speech coding, details of the
>new U.S gov standard for 2400 bps operation have been published.
>
>Also included is an implementation in C and C50 DSP.
>
>http://www.plh.af.mil/ddvpc/melp.htm
>
>I have only just found the stuff and have not had time to read it
>yet.
>
>- Charles
>

## 22. Re: [DSP:1160] Re: MELP Info

From: Charles Brain <chbrain@dircon.co.uk>
Date: Wed, 21 Oct 1998 18:34:14 +0100
To: dsp@tapr.org
Message-ID: <362E1B16.95B8FA0D@dircon.co.uk>
Rendered body type: text/plain

Douglas Braun wrote:
>
> Hello all,
>
> I grabbed the code for this (the C version), and it compiled fine on Linux and Win95.
> By the way, the input/output audio file format is apparently raw PCM data, with 16-bit samples at
> an 8000 Hz rate.
>

What Win95 compiler are you using Doug? I am using VC++5 and some of the macros clash with
the MELP code. I also get thousands of float / double truncation warnings.

I have managed to compile it using DJGPP with no problems and with optimization turned on
I can run it in real-time with my 200 Mhz Pentium MMX (using a sound card for I/O).

> about 4X larger than I expected.  Then I noticed that it was writing each
> signed byte of output as a 32-bit value, so the output file was mostly zeros...

On the output of my DJGPP version the MELP code always sends the first word as a
16 bit value with the MSB set ie 80xx.

> This looks like a very promising piece of code, which would be easy
> to integrate into various ham applications!
>

Yes but I wonder what TI will say about that! Their IP notices are all over it!

> Doug
> N1OWU


- Charles

## 23. Re: [DSP:1161] Re: MELP Info

From: Douglas Braun <doug.braun@intel.com>
Date: Wed, 21 Oct 1998 18:36:52 +0300
To: dsp@tapr.org
Message-ID: <4.1.19981021182526.00978ef0@cadev5.intel.com>
Rendered body type: text/plain

At 12:43 21/10/98 -0500, you wrote:

>What Win95 compiler are you using Doug? I am using VC++5 and some of the
>macros clash with
>the MELP code. I also get thousands of float / double truncation warnings.

I use VC5, but I used the command-line version, which may use a different
set of compiler options than the integrated development environment.
I got only two warnings, for a redefinition of PI.

>I have managed to compile it using DJGPP with no problems and with
>optimization turned on
>I can run it in real-time with my 200 Mhz Pentium MMX (using a sound card
>for I/O).

With the same CPU chip and VC5 w/ full optimization, I get encoding and decoding together in
about 1.8x realtime.


>On the output of my DJGPP version the MELP code always sends the first word
>as a
>16 bit value with the MSB set ie 80xx.

I got 32-bit words like this:  x0000000 00000000 00000000 0xxxxxxx
It sort of looks like a signed value, but not quite...  The code that takes the encoder
results and outputs it to a file is sort of confusing, so I could not figure out what it was
really supposed to do.

>Yes but I wonder what TI will say about that! Their IP notices are all over it!

Good question, but at least they published it.  The runner-up in the evalation was
from a company called DVS (www.dvsinc.com). Their CODEC is used by Iridium.  On paper
it appeared to perform better than MELPS, but it was rejected for some
other problem.  But I am sure it is highly proprietary.  That company also
makes a chip with their CODEC built in.  I would love to get a sample.
It is supposed to be "inexpensive".

## 24. TAPR PSK Modem?

From: "Fernando M. I. Carreiro" <fmi@carreiro.com>
Date: Thu, 22 Oct 1998 00:52:09 +0100
To: <dsp@tapr.org>, <tapr-tnc@tapr.org>, <hfsig@tapr.org>
Message-ID: <005501bdfd4e$0dc48020$e6ffa8c0@pc001>
Rendered body type: text/plain

I am looking for information and technical specifications on the old TAPR PSK Modem. Can anyone perhaps
tell me, from where I can download such information. I am particularly interested in the "costas loop"
used for carrier recovery.
    Thank you and regards,
---
Fernando M. I. Carreiro
mailto:fmi@carreiro.com
http://www.fmi.carreiro.com
callsign:ZS6BLF

## 25. Re: [DSP:1134] In the beginning

From: Rick Hood <frh@gte.net>
Date: Wed, 21 Oct 1998 21:03:40 -0800
To: dsp@tapr.org
Cc: john.clark@state.co.us
Message-ID: <v04020a02b254647dde95@[208.254.9.207]>
Rendered body type: text/plain

>I have read "Understanding DSP" by Richard Lyons, got a DSP56002 EVM,
>have a TAPR DSP box on order.
>
>It is now time to think about what I would like to do, and ask for all
>the help I can find. I'm no engineer.
>I could understand the concepts in Lyon's book but much of the math is
>over my head.

I'm wondering if you would provide a pointer to the Lyon book? I looked for it on web sites for Computer Literacy, Amazon.com and Barnes & Nobel without success. Also, would this be Richard F. Lyon of Caltech (http://house.pcmp.caltech.edu/anaprose/dick/) or Richard H. Lyon of MIT (http://me.mit.edu/people/rhlyon.html) or perhaps another Lyon or Lyons?

By the way, I just acquired the Grover & Deller book, "Digital Signal Processing and the Microcontroller" which has been mentioned on this list. The math in this book is nowhere as demanding as typical DSP material and its well-calibrated as a fairly gentle & fun introduction. Definitely worth a look, but not exactly cheap. Another reference that might be useful as a starting place for further inquiry is

F. R. Moore, "An Introduction to the Mathematics of Digital Signal Processing, Part I," Computer Music Journal, Vol 2, No. 1, pp38-47, 1978.

F. R. Moore, "An Introduction to the Mathematics of Digital Signal Processing, Part II," Computer Music Journal, Vol 2, No. 2, pp38-60, 1978.

Chances are you can find them in the Music Department libaray at your nearest state university. These articles were written for musicians, not scientists. They do not scorn the math, only lead you into it. I especially like the description of "the most beautiful formula in mathematics" you'll find there.

Perhaps someone has also mentioned the tutorial in the current issues of QEX (I'm behind in my reading of this list, Sorry!) which started with the March/April 98 issue. This series assumes you know more than the Grover/Deller book or the Moore articles.

TIA for your comments & 73,

Rick, KC7CRS / AFA5CU

## 26. RE: [DSP:1164] Re: In the beginning

From: john.clark@state.co.us
Date: Wed, 21 Oct 1998 22:42:49 -0600
To: <dsp@tapr.org>
Message-ID: <c=US%a=_%p=Colorado%l=EXCHANGE1-981022044249Z-123887@exchange1.state.co.us>
Rendered body type: text/plain

Understanding Digital Signal Processing by Richard G. Lyons, ISBN 0-201-63467-8
Systems Engineer with Systems Integration Group at TRW, Inc.

-----Original Message-----
From: Rick Hood [mailto:frh@gte.net]
Sent: Wednesday, October 21, 1998 10:02 PM
To: dsp@tapr.org
Subject: [DSP:1164] Re: In the beginning

>I have read "Understanding DSP" by Richard Lyons, got a DSP56002 EVM,
>have a TAPR DSP box on order.
>
>It is now time to think about what I would like to do, and ask for all
>the help I can find. I'm no engineer.
>I could understand the concepts in Lyon's book but much of the math is
>over my head.

I'm wondering if you would provide a pointer to the Lyon book? I looked for
it on web sites for Computer Literacy, Amazon.com and Barnes & Nobel
without success. Also, would this be Richard F. Lyon of Caltech

(http://house.pcmp.caltech.edu/anaprose/dick/) or Richard H. Lyon of MIT
(http://me.mit.edu/people/rhlyon.html) or perhaps another Lyon or Lyons?

By the way, I just acquired the Grover & Deller book, "Digital Signal
Processing and the Microcontroller" which has been mentioned on this
list.
The math in this book is nowhere as demanding as typical DSP material
and
its well-calibrated as a fairly gentle & fun introduction. Definitely
worth
a look, but not exactly cheap. Another reference that might be useful as
a
starting place for further inquiry is

F. R. Moore, "An Introduction to the Mathematics of Digital Signal
Processing, Part I," Computer Music Journal, Vol 2, No. 1, pp38-47,
1978.

F. R. Moore, "An Introduction to the Mathematics of Digital Signal
Processing, Part II," Computer Music Journal, Vol 2, No. 2, pp38-60,
1978.

Chances are you can find them in the Music Department libaray at your
nearest state university. These articles were written for musicians, not
scientists. They do not scorn the math, only lead you into it. I
especially
like the description of "the most beautiful formula in mathematics"
you'll
find there.

Perhaps someone has also mentioned the tutorial in the current issues of
QEX (I'm behind in my reading of this list, Sorry!) which started with
the
March/April 98 issue. This series assumes you know more than the
Grover/Deller book or the Moore articles.

TIA for your comments & 73,

Rick, KC7CRS / AFA5CU

## 27. Re: [DSP:1160] DSP digest 426

From: "asdor" <asdor@netvision.net.il>
Date: Thu, 22 Oct 1998 13:18:12 +0200
To: <dsp@tapr.org>
Message-ID: <000601bdfdad$ad46a6a0$f491003e@laboratory>
Rendered body type: text/plain

-----Original Message-----
From: dsp@tapr.org <dsp@tapr.org>
To: dsp@tapr.org <dsp@tapr.org>
Date: éåí øáéòé 21 àå÷èåáø 1998 18:54
Subject: [DSP:1160] DSP digest 426


>     DSP Digest 426
>
>Topics covered in this issue include:
>
>  1) Re: MELP Info
> by Douglas Braun <doug.braun@intel.com>
>
>------------------------------------------------------------------------
>
>Date: Wed, 21 Oct 1998 11:40:18 +0300
>From: Douglas Braun <doug.braun@intel.com>
>To: dsp@tapr.org
>Subject: Re: MELP Info
>Message-ID: <4.1.19981021111134.0094c870@cadev5.intel.com>
>
>Hello all,
>
>I grabbed the code for this (the C version), and it compiled fine on Linux
and Win95.
>By the way, the input/output audio file format is apparently raw PCM data,
with 16-bit samples at
>an 8000 Hz rate.
>
>When I ran the encoder and decoder, I found the the resulting speech was
>virtually indistinguishable from the original (and it seemed a lot BETTER

than the
>sample audio files from the web site), but the encoded file size was
>about 4X larger than I expected.  Then I noticed that it was writing each
>signed byte of output as a 32-bit value, so the output file was mostly
zeros...
>I am not sure if this is a bug or a feature, though.
>
>This looks like a very promising piece of code, which would be easy
>to integrate into various ham applications!
>
>Doug
>N1OWU
>
>
>At 12:45 14/10/98 -0500, you wrote:
>>Hello,
>>
>>If anyone is interested in low rate speech coding, details of the
>>new U.S gov standard for 2400 bps operation have been published.
>>
>>Also included is an implementation in C and C50 DSP.
>>
>>http://www.plh.af.mil/ddvpc/melp.htm
>>
>>I have only just found the stuff and have not had time to read it
>>yet.
>>
>>- Charles
>>
>
>
>------------------------------
>
>End of DSP Digest 426
>**********************
>

## 28. Re: [DSP:1160] DSP digest 426

From: "asdor" <asdor@netvision.net.il>
Date: Thu, 22 Oct 1998 13:18:22 +0200
To: <dsp@tapr.org>
Message-ID: <000701bdfdad$aeb7e9e0$f491003e@laboratory>
Rendered body type: text/plain

-----Original Message-----
From: dsp@tapr.org <dsp@tapr.org>
To: dsp@tapr.org <dsp@tapr.org>
Date: éåí øáéòé 21 àå÷èåáø 1998 18:54
Subject: [DSP:1160] DSP digest 426


>     DSP Digest 426
>
>Topics covered in this issue include:
>
>  1) Re: MELP Info
> by Douglas Braun <doug.braun@intel.com>
>
>------------------------------------------------------------------------
>
>Date: Wed, 21 Oct 1998 11:40:18 +0300
>From: Douglas Braun <doug.braun@intel.com>
>To: dsp@tapr.org
>Subject: Re: MELP Info
>Message-ID: <4.1.19981021111134.0094c870@cadev5.intel.com>
>
>Hello all,
>
>I grabbed the code for this (the C version), and it compiled fine on Linux
and Win95.
>By the way, the input/output audio file format is apparently raw PCM data,
with 16-bit samples at
>an 8000 Hz rate.
>
>When I ran the encoder and decoder, I found the the resulting speech was
>virtually indistinguishable from the original (and it seemed a lot BETTER
than the
>sample audio files from the web site), but the encoded file size was
>about 4X larger than I expected.  Then I noticed that it was writing each

>signed byte of output as a 32-bit value, so the output file was mostly
zeros...
>I am not sure if this is a bug or a feature, though.
>
>This looks like a very promising piece of code, which would be easy
>to integrate into various ham applications!
>
>Doug
>N1OWU
>
>
>At 12:45 14/10/98 -0500, you wrote:
>>Hello,
>>
>>If anyone is interested in low rate speech coding, details of the
>>new U.S gov standard for 2400 bps operation have been published.
>>
>>Also included is an implementation in C and C50 DSP.
>>
>>http://www.plh.af.mil/ddvpc/melp.htm
>>
>>I have only just found the stuff and have not had time to read it
>>yet.
>>
>>- Charles
>>
>
>
>------------------------------
>
>End of DSP Digest 426
>**********************
>

## 29. TAPR PSK Modem? (HTML Removed)

From: "Fernando M. I. Carreiro" <fmi@carreiro.com>
Date: Thu, 22 Oct 1998 16:05:57 +0100
To: <dsp@tapr.org>, <tapr-tnc@tapr.org>, <hfsig@tapr.org>
Message-ID: <003801bdfdd0$2e90ac20$e6ffa8c0@pc001>
Rendered body type: text/plain

I am looking for information and technical specifications on the old TAPR
PSK Modem. Can anyone perhaps tell me, from where I can download such
information. I am particularly interested in the "costas loop" used for
carrier recovery.
    Thank you and regards,
---------------------------------------------------------------------
Fernando M. I. Carreiro
mailto:fmi@carreiro.com
http://www.fmi.carreiro.com
callsign:ZS6BLF

## 30. board for AD607

From: john.clark@state.co.us
Date: Sun, 25 Oct 1998 18:32:54 -0700
To: <dsp@tapr.org>
Message-ID: <c=US%a=_%p=Colorado%l=EXCHANGE1-981026013254Z-127955@exchange1.state.co.us>
Rendered body type: text/plain

Does any know of a board to hold a AD607?

The board from Analog Devices is $ 199, seams high to hold a $ 10 chip.

73
John Clark
N0URE

## 31. Re: [DSP:1169] DSP digest 428

From: "asdor" <asdor@netvision.net.il>
Date: Mon, 26 Oct 1998 07:54:13 +0200
To: <dsp@tapr.org>
Message-ID: <001301be00a5$10170320$f291003e@laboratory>
Rendered body type: text/plain

-----Original Message-----
From: dsp@tapr.org <dsp@tapr.org>
To: dsp@tapr.org <dsp@tapr.org>

```
Date: éåí ùðé 26 àå÷èåáø 1998 03:51
Subject: [DSP:1169] DSP digest 428


>     DSP Digest 428
>
>Topics covered in this issue include:
>
>  1) board for AD607
> by john.clark@state.co.us
>
>------------------------------------------------------------------------
>
>Date: Sun, 25 Oct 1998 18:32:54 -0700
>From: john.clark@state.co.us
>To: <dsp@tapr.org>
>Subject: board for AD607
>Message-ID:
<c=US%a=_%p=Colorado%l=EXCHANGE1-981026013254Z-127955@exchange1.state.co.us>
>
>Does any know of a board to hold a AD607?
>
>The board from Analog Devices is $ 199, seams high to hold a $ 10 chip.
>
>
>73
>John Clark
>N0URE
>
>
>------------------------------
>
>End of DSP Digest 428
>**********************
>
```

## 32. Mail failure

```
From: THEFARM/HIDEOUT/POSTMASTER
 <IMCEAMS-THEFARM_HIDEOUT_POSTMASTER@SystemsFarm.com>
Date: Sun, 25 Oct 1998 22:53:00 -0800
To: dsp@tapr.org
Message-ID: <199810260658.AAA25416@tapr.org>
Rendered body type: text/plain
```

```
[005] The mail retry count was exceeded sending to RACE/RACAL.


------------------------------------------------------------------------------
--
Microsoft Mail v3.0 (MAPI 1.0 Transport) IPM.Microsoft Mail.Note
From: dsp@tapr.org
To:  dsp@tapr.org
Subject:  [DSP:1169] DSP digest 428
Date: 1998-10-25 17:46
Priority: 3
Message ID: 3579E013FD69D211AA1900104B9853EE



                            DSP Digest 428

Topics covered in this issue include:

  1) board for AD607
        by john.clark@state.co.us

 ------------------------------------------------------------------------

Date: Sun, 25 Oct 1998 18:32:54 -0700
From: john.clark@state.co.us
To: <dsp@tapr.org>
Subject: board for AD607
Message-ID:
<c=US%a=_%p=Colorado%l=EXCHANGE1-981026013254Z-127955@exchange1.state.co.us>

Does any know of a board to hold a AD607?

The board from Analog Devices is $ 199, seams high to hold a $ 10 chip.
```

73
John Clark
N0URE


 ------------------------------

End of DSP Digest 428
**********************

## 33. Re: [DSP:1171] DSP digest 429

From: "asdor" <asdor@netvision.net.il>
Date: Tue, 27 Oct 1998 08:31:18 +0200
To: <dsp@tapr.org>
Message-ID: <000e01be0173$68b96580$0f91003e@laboratory>
Rendered body type: text/plain

-----Original Message-----
From: dsp@tapr.org <dsp@tapr.org>
To: dsp@tapr.org <dsp@tapr.org>
Date: éåí ùìéùé 27 àå÷èåáø 1998 03:56
Subject: [DSP:1171] DSP digest 429


>     DSP Digest 429
>
>Topics covered in this issue include:
>
>  1) Re: DSP digest 428
> by "asdor" <asdor@netvision.net.il>
>  2) Mail failure
> by THEFARM/HIDEOUT/POSTMASTER
>
>------------------------------------------------------------------------
>
>Date: Mon, 26 Oct 1998 07:54:13 +0200
>From: "asdor" <asdor@netvision.net.il>
>To: <dsp@tapr.org>
>Subject: Re: DSP digest 428
>Message-ID: <001301be00a5$10170320$f291003e@laboratory>
>
>
>-----Original Message-----
>From: dsp@tapr.org <dsp@tapr.org>
>To: dsp@tapr.org <dsp@tapr.org>
>Date: éåí ùðé 26 àå÷èåáø 1998 03:51
>Subject: [DSP:1169] DSP digest 428
>
>
>>     DSP Digest 428
>>
>>Topics covered in this issue include:
>>
>>  1) board for AD607
>> by john.clark@state.co.us
>>
>>------------------------------------------------------------------------
>>
>>Date: Sun, 25 Oct 1998 18:32:54 -0700
>>From: john.clark@state.co.us
>>To: <dsp@tapr.org>
>>Subject: board for AD607
>>Message-ID:
><c=US%a=_%p=Colorado%l=EXCHANGE1-981026013254Z-127955@exchange1.state.co.us
>
>>
>>Does any know of a board to hold a AD607?
>>
>>The board from Analog Devices is $ 199, seams high to hold a $ 10 chip.
>>
>>
>>73
>>John Clark
>>N0URE
>>
>>
>>------------------------------

>>
>>End of DSP Digest 428
>>**********
>>
>
>
>------------------------------
>
>Date: Sun, 25 Oct 1998 22:53:00 -0800
>From: THEFARM/HIDEOUT/POSTMASTER
>To: dsp@tapr.org
>Subject: Mail failure
>Message-ID: <199810260658.AAA25416@tapr.org>
>
>
>[005] The mail retry count was exceeded sending to RACE/RACAL.
>
>
>------------------------------------------------------------------------
-
>--
>Microsoft Mail v3.0 (MAPI 1.0 Transport) IPM.Microsoft Mail.Note
>From: dsp@tapr.org
>To:  dsp@tapr.org
>Subject:  [DSP:1169] DSP digest 428
>Date: 1998-10-25 17:46
>Priority: 3
>Message ID: 3579E013FD69D211AA1900104B9853EE
>
>
>
>
>     DSP Digest 428
>
>Topics covered in this issue include:
>
>  1) board for AD607
> by john.clark@state.co.us
>
> ---------------------------------------------------------------------
>
>Date: Sun, 25 Oct 1998 18:32:54 -0700
>From: john.clark@state.co.us
>To: <dsp@tapr.org>
>Subject: board for AD607
>Message-ID:
><c=US%a=_%p=Colorado%l=EXCHANGE1-981026013254Z-127955@exchange1.state.co.us
>
>
>Does any know of a board to hold a AD607?
>
>The board from Analog Devices is $ 199, seams high to hold a $ 10 chip.
>
>
>73
>John Clark
>N0URE
>
>
> ------------------------------
>
>End of DSP Digest 428
>**********
>
>
>------------------------------
>
>End of DSP Digest 429
>**********
>

## 34. Re: [DSP:1172] DSP digest 430

From: "asdor" <asdor@netvision.net.il>
Date: Thu, 29 Oct 1998 07:59:42 +0200
To: <dsp@tapr.org>
Message-ID: <000d01be0301$6008e980$0492003e@laboratory>
Rendered body type: text/plain

-----Original Message-----
From: dsp@tapr.org <dsp@tapr.org>
To: dsp@tapr.org <dsp@tapr.org>
Date: éåí øáéòé 28 àå÷èåáø 1998 15:21
Subject: [DSP:1172] DSP digest 430


>     DSP Digest 430
>
>Topics covered in this issue include:
>
>  1) Re: DSP digest 429
> by "asdor" <asdor@netvision.net.il>
>
>------------------------------------------------------------------------
>
>Date: Tue, 27 Oct 1998 08:31:18 +0200
>From: "asdor" <asdor@netvision.net.il>
>To: <dsp@tapr.org>
>Subject: Re: DSP digest 429
>Message-ID: <000e01be0173$68b96580$0f91003e@laboratory>
>
>
>-----Original Message-----
>From: dsp@tapr.org <dsp@tapr.org>
>To: dsp@tapr.org <dsp@tapr.org>
>Date: éåí ùìéùé 27 àå÷èåáø 1998 03:56
>Subject: [DSP:1171] DSP digest 429
>
>
>>     DSP Digest 429
>>
>>Topics covered in this issue include:
>>
>>  1) Re: DSP digest 428
>> by "asdor" <asdor@netvision.net.il>
>>  2) Mail failure
>> by THEFARM/HIDEOUT/POSTMASTER
>>
>>------------------------------------------------------------------------
>>
>>Date: Mon, 26 Oct 1998 07:54:13 +0200
>>From: "asdor" <asdor@netvision.net.il>
>>To: <dsp@tapr.org>
>>Subject: Re: DSP digest 428
>>Message-ID: <001301be00a5$10170320$f291003e@laboratory>
>>
>>
>>-----Original Message-----
>>From: dsp@tapr.org <dsp@tapr.org>
>>To: dsp@tapr.org <dsp@tapr.org>
>>Date: éåí ùðé 26 àå÷èåáø 1998 03:51
>>Subject: [DSP:1169] DSP digest 428
>>
>>
>>>     DSP Digest 428
>>>
>>>Topics covered in this issue include:
>>>
>>>  1) board for AD607
>>> by john.clark@state.co.us
>>>
>>>------------------------------------------------------------------------
>>>
>>>Date: Sun, 25 Oct 1998 18:32:54 -0700
>>>From: john.clark@state.co.us
>>>To: <dsp@tapr.org>
>>>Subject: board for AD607
>>>Message-ID:
>>><c=US%a=_%p=Colorado%l=EXCHANGE1-981026013254Z-127955@exchange1.state.co.u
s
>>
>>>
>>>Does any know of a board to hold a AD607?
>>>
>>>The board from Analog Devices is $ 199, seams high to hold a $ 10 chip.
>>>
>>>
>>>73

>>>John Clark
>>>N0URE
>>>
>>>
>>>------------------------------
>>>
>>>End of DSP Digest 428
>>>**********************
>>>
>>
>>
>>------------------------------
>>
>>Date: Sun, 25 Oct 1998 22:53:00 -0800
>>From: THEFARM/HIDEOUT/POSTMASTER
>>To: dsp@tapr.org
>>Subject: Mail failure
>>Message-ID: <199810260658.AAA25416@tapr.org>
>>
>>
>>[005] The mail retry count was exceeded sending to RACE/RACAL.
>>
>>
>>--------------------------------------------------------------------------------
-
>-
>>--
>>Microsoft Mail v3.0 (MAPI 1.0 Transport) IPM.Microsoft Mail.Note
>>From: dsp@tapr.org
>>To:  dsp@tapr.org
>>Subject:  [DSP:1169] DSP digest 428
>>Date: 1998-10-25 17:46
>>Priority: 3
>>Message ID: 3579E013FD69D211AA1900104B9853EE
>>
>>
>>
>>
>>     DSP Digest 428
>>
>>Topics covered in this issue include:
>>
>>  1) board for AD607
>> by john.clark@state.co.us
>>
>> ------------------------------------------------------------------------
>>
>>Date: Sun, 25 Oct 1998 18:32:54 -0700
>>From: john.clark@state.co.us
>>To: <dsp@tapr.org>
>>Subject: board for AD607
>>Message-ID:
>><c=US%a=_%p=Colorado%l=EXCHANGE1-981026013254Z-127955@exchange1.state.co.u
s
>>
>>
>>Does any know of a board to hold a AD607?
>>
>>The board from Analog Devices is $ 199, seams high to hold a $ 10 chip.
>>
>>
>>73
>>John Clark
>>N0URE
>>
>>
>> ------------------------------
>>
>>End of DSP Digest 428
>>**********************
>>
>>
>>------------------------------
>>
>>End of DSP Digest 429
>>**********************
>>
>
>

>------------------------------
>
>End of DSP Digest 430
>**********************
>

## 35. Re: [DSP:1173] DSP digest 431

From: "asdor" <asdor@netvision.net.il>
Date: Thu, 29 Oct 1998 08:18:47 +0200
To: <dsp@tapr.org>
Message-ID: <000401be0303$fe0cf5c0$0492003e@laboratory>
Rendered body type: text/plain

-----Original Message-----
From: dsp@tapr.org <dsp@tapr.org>
To: dsp@tapr.org <dsp@tapr.org>
Date: éåí çîéùé 29 àå÷èåáø 1998 07:59
Subject: [DSP:1173] DSP digest 431


>     DSP Digest 431
>
>Topics covered in this issue include:
>
>  1) Re: DSP digest 430
> by "asdor" <asdor@netvision.net.il>
>
>------------------------------------------------------------------------
>
>Date: Thu, 29 Oct 1998 07:59:42 +0200
>From: "asdor" <asdor@netvision.net.il>
>To: <dsp@tapr.org>
>Subject: Re: DSP digest 430
>Message-ID: <000d01be0301$6008e980$0492003e@laboratory>
>
>
>-----Original Message-----
>From: dsp@tapr.org <dsp@tapr.org>
>To: dsp@tapr.org <dsp@tapr.org>
>Date: éåí øáéòé 28 àå÷èåáø 1998 15:21
>Subject: [DSP:1172] DSP digest 430
>
>
>>     DSP Digest 430
>>
>>Topics covered in this issue include:
>>
>>  1) Re: DSP digest 429
>> by "asdor" <asdor@netvision.net.il>
>>
>>------------------------------------------------------------------------
>>
>>Date: Tue, 27 Oct 1998 08:31:18 +0200
>>From: "asdor" <asdor@netvision.net.il>
>>To: <dsp@tapr.org>
>>Subject: Re: DSP digest 429
>>Message-ID: <000e01be0173$68b96580$0f91003e@laboratory>
>>
>>
>>-----Original Message-----
>>From: dsp@tapr.org <dsp@tapr.org>
>>To: dsp@tapr.org <dsp@tapr.org>
>>Date: éåí ùìéùé 27 àå÷èåáø 1998 03:56
>>Subject: [DSP:1171] DSP digest 429
>>
>>
>>>     DSP Digest 429
>>>
>>>Topics covered in this issue include:
>>>
>>>  1) Re: DSP digest 428
>>> by "asdor" <asdor@netvision.net.il>
>>>  2) Mail failure
>>> by THEFARM/HIDEOUT/POSTMASTER
>>>
>>>------------------------------------------------------------------------
>>>
>>>Date: Mon, 26 Oct 1998 07:54:13 +0200
>>>From: "asdor" <asdor@netvision.net.il>

>>>To: <dsp@tapr.org>
>>>Subject: Re: DSP digest 428
>>>Message-ID: <001301be00a5$10170320$f291003e@laboratory>
>>>
>>>
>>>-----Original Message-----
>>>From: dsp@tapr.org <dsp@tapr.org>
>>>To: dsp@tapr.org <dsp@tapr.org>
>>>Date: éåí ùðé 26 àå÷èååø 1998 03:51
>>>Subject: [DSP:1169] DSP digest 428
>>>
>>>
>>>>     DSP Digest 428
>>>>
>>>>Topics covered in this issue include:
>>>>
>>>>  1) board for AD607
>>>> by john.clark@state.co.us
>>>>
>>>>------------------------------------------------------------------------
>>>>
>>>>Date: Sun, 25 Oct 1998 18:32:54 -0700
>>>>From: john.clark@state.co.us
>>>>To: <dsp@tapr.org>
>>>>Subject: board for AD607
>>>>Message-ID:
>>><c=US%a=_%p=Colorado%l=EXCHANGE1-981026013254Z-127955@exchange1.state.co.
u
>s
>>>
>>>>
>>>>Does any know of a board to hold a AD607?
>>>>
>>>>The board from Analog Devices is $ 199, seams high to hold a $ 10 chip.
>>>>
>>>>
>>>>73
>>>>John Clark
>>>>N0URE
>>>>
>>>>
>>>>------------------------------
>>>>
>>>>End of DSP Digest 428
>>>>**********************
>>>>
>>>
>>>
>>>------------------------------
>>>
>>>Date: Sun, 25 Oct 1998 22:53:00 -0800
>>>From: THEFARM/HIDEOUT/POSTMASTER
>>>To: dsp@tapr.org
>>>Subject: Mail failure
>>>Message-ID: <199810260658.AAA25416@tapr.org>
>>>
>>>
>>>[005] The mail retry count was exceeded sending to RACE/RACAL.
>>>
>>>
>>>------------------------------------------------------------------------
-
>-
>>-
>>>--
>>>Microsoft Mail v3.0 (MAPI 1.0 Transport) IPM.Microsoft Mail.Note
>>>From: dsp@tapr.org
>>>To:  dsp@tapr.org
>>>Subject:  [DSP:1169] DSP digest 428
>>>Date: 1998-10-25 17:46
>>>Priority: 3
>>>Message ID: 3579E013FD69D211AA1900104B9853EE
>>>
>>>
>>>
>>>
>>>     DSP Digest 428
>>>
>>>Topics covered in this issue include:

>>>
>>>  1) board for AD607
>>> by john.clark@state.co.us
>>>
>>> ------------------------------------------------------------------------
>>>
>>>Date: Sun, 25 Oct 1998 18:32:54 -0700
>>>From: john.clark@state.co.us
>>>To: <dsp@tapr.org>
>>>Subject: board for AD607
>>>Message-ID:
>>><c=US%a=_%p=Colorado%l=EXCHANGE1-981026013254Z-127955@exchange1.state.co.
u
>s
>>>
>>>
>>>Does any know of a board to hold a AD607?
>>>
>>>The board from Analog Devices is $ 199, seams high to hold a $ 10 chip.
>>>
>>>
>>>73
>>>John Clark
>>>N0URE
>>>
>>>
>>> ------------------------------
>>>
>>>End of DSP Digest 428
>>>**********************
>>>
>>>
>>>------------------------------
>>>
>>>End of DSP Digest 429
>>>**********************
>>>
>>
>>
>>------------------------------
>>
>>End of DSP Digest 430
>>**********************
>>
>
>
>------------------------------
>
>End of DSP Digest 431
>**********************
>

# November 1998

Original source file: dsp.9811
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/dspsig/mail_archive/dsp.9811

## 1. DGPS Modem?

From: Douglas Braun <doug.braun@intel.com>
Date: Thu, 05 Nov 1998 11:57:15 -0800
To: dsp@tapr.org
Message-ID: <9811051959.AA10540@cadev5.intel.com>
Rendered body type: text/plain

Hello,

Has anyone ever looked into writing a DGPS modem for the EVM?
DGPS (differental GPS) correction data is transmitted on LF
maring navigation beacons with 100 or 200 baud MSK.

Doug Braun

---

## 2. Re: [DSP:1175] DGPS Modem?

From: Douglas Braun <doug.braun@intel.com>
Date: Thu, 05 Nov 1998 14:27:37 -0800
To: David Dicarlo <dicarlo@cygnus.sps.mot.com>, dsp@tapr.org
Message-ID: <9811052230.AA11446@cadev5.intel.com>
Rendered body type: text/plain

At 02:53 PM 11/5/98 -0600, you wrote:

It's not really "my" FSK modem...

But yes, my first thought was to take the 1200 baud FSK modem
and change the parameters for 200 BPS and a 50Hz shift.
It would get the audio signal from a SSB receiver, of course.
The received bit stream would go directly to an output line, and
the serial port (and its support code in Leonid) would not be used.

As for transmitting DGPS corrections, I thought some people are already doing
this with normal AX-25 packets.  If the format of the DGPS data in the AX-25 packet is
defined,  the current EVM modem (or any KISS mode TCN) should work.  But then
at the receive end, you would need a convertor from the AX-25 format to the RTCM format...

If you instead want to transmit the DGPS data directly in 200 baud RTCM
format, the transmit and receive modems would be pretty simple, but
you may have legal issues with ID-ing, etc.

I copied most of my stuff to a new web page at: <http://www.erols.com/dougbert>.
Most of my ham gear is still boxed up frmo my move, though. :-(

Doug

>Can your FSK modem for the 002EVM be modified so that it will transmit the
>regular APRS packets as well as a mode where it would become a DGPS beacon.
>
>As long as the GPS gets the RTCM 104 (I'm not fully sure of the acronym) data
>in the input port at the right speed, it should not matter whether one uses a
>VHF DGPS beacon or a LF beacon.  My supervisor would love it if we could use
>EVMs as a DGPS beacon/APRS TNC...
>
>Also, do you have a domestic home page yet with all your 002EVM code?
>
>Thanks,
>david
>
>
>
>-------------------------------------------------------------------------------
>David DiCarlo                          DSP Helpline & Technical Support
>email: dicarlo@dsp.sps.mot.com         Motorola Wireless Subscriber Systems Group
>Phone: 512-895-6941                    Mail Drop OE-314
>FAX:   512-895-4665                    6501 William Cannon Drive West
>                                       Austin Texas 78735-8598
>-------------------------------------------------------------------------------
>
>                For NEW calls, please use our web page at
>                 http://www.mot.com/SPS/DSP/contact.html
>                 or email us, at dsphelp@dsp.sps.mot.com
>

>

## 3. DGPS Modem?

From: Douglas Braun <doug.braun@intel.com>
Date: Thu, 05 Nov 1998 17:44:37 -0800
To: dsp@tapr.org
Message-ID: <9811060147.AA12715@cadev5.intel.com>
Rendered body type: text/plain

If anone else is interested in DGPS homebrewing, here is a really, really excellent site:

<http://homepage.westmont.edu/u/mcs/rodkey/index.htm>

Doug

## 4. Re: [DSP:1176] Re: DGPS Modem?

From: "Steven R. Bible" <srbible@gate.net>
Date: Thu, 05 Nov 1998 20:50:48 -0500
To: dsp@tapr.org
Message-ID: <3.0.5.32.19981105205048.009d55b0@pop.gate.net>
Rendered body type: text/plain

For a DGPS solution, see

   http://www.tapr.org/gps/dgps/

For code for the EVM see

   http://www.tapr.org/tapr/html/evm56002.html

   http://www.tapr.org/dsp/evm56k/index.html

And a radio interface

   http://www.tapr.org/tapr/html/dsp56002evm.html

 - Steve
 (n7hpr@tapr.org)

## 5. Re: [DSP:1178] Re: DGPS Modem?

From: forrerj@peak.org (Johan Forrer)
Date: Thu, 05 Nov 1998 21:57:45 -0800
To: dsp@tapr.org
Message-ID: <199811060601.WAA28275@peak.org>
Rendered body type: text/plain

Steve,

I am a little puzzled by the TAPR DGPS solution .... maybe you can enliten
me please.

DGPS is broadcast in the LF bands for a particular geographic area.
That require some sort of VLF receiver and MSK demodulator and decoder
to work with a GPS unit. Does not make sense to me to broadcast
DGPS on 2M ? How do we know it is accurate for your area?

I have gotten a VLF DSP receiver project going using an EVM and home made
CMOS-switched mixer and was going to do the MSK demodulator to
tune to our Coast Guard DGPS transmissions for this purpose.

Maybe I'm missing something?

Regards,

Johan, KC7WW

## 6. Re: [DSP:1179] Re: DGPS Modem?

From: "Steven R. Bible" <srbible@gate.net>
Date: Fri, 06 Nov 1998 08:37:43 -0500
To: dsp@tapr.org
Message-ID: <3.0.5.32.19981106083743.007a3cd0@pop.gate.net>
Rendered body type: text/plain

At 12:04 AM 11/6/98 -0600, you wrote:
>Steve,
>

>I am a little puzzled by the TAPR DGPS solution .... maybe you can enliten
>me please.
>
>DGPS is broadcast in the LF bands for a particular geographic area.
>That require some sort of VLF receiver and MSK demodulator and decoder
>to work with a GPS unit. Does not make sense to me to broadcast
>DGPS on 2M ? How do we know it is accurate for your area?
>
>I have gotten a VLF DSP receiver project going using an EVM and home made
>CMOS-switched mixer and was going to do the MSK demodulator to
>tune to our Coast Guard DGPS transmissions for this purpose.
>
>Maybe I'm missing something?

Johan, this may be due to some of the misconceptions I've addressed having designed the DGPSIB. Many people think when told DGPS, that it implies the USCG system. DGPS can be anything you want it to be. I designed a low-cost reference station that you can put up yourself. You are lucky to live on the coast, but what about those in Colorado?

The requirement for a data link does not solely say VLF and MSK. You can transmit RTCM SC-104 corrections on any data link you choose. And transmiting it on 2 meters is fine? Why do you say it does not make sense?

Accuracy, take a look at my performance pages. There's a link off of the DGPS page

   http://www.tapr.org/gps/dgps/

Go ahead and get a copy of SAWatch and plot a GPS receiver that is receiving USCG corrections and compare to my plots. You will see the same, or better, performance.

Your project sounds very interesting. Can you tell me more?

## 7. Re: [DSP:1177] DGPS Modem?

From: Douglas Braun <doug.braun@intel.com>
Date: Fri, 06 Nov 1998 08:41:35 -0800
To: "Steven R. Bible" <srbible@gate.net>, dsp@tapr.org
Message-ID: <9811061644.AA16541@cadev5.intel.com>
Rendered body type: text/plain

Oops, I sent the wrong one. It should be:

<http://home1.gte.net/clseng/DGPS_index.htm>

There are DGPS receiver projects from two different people with pictures, schematics, firmware source code, PCB layouts, etc., plus lots of good links.

Doug
N1OWU

At 08:28 AM 11/6/98 -0500, Steven R. Bible wrote:
>At 07:50 PM 11/5/98 -0600, you wrote:
>>If anone else is interested in DGPS homebrewing, here is a really, really
>excellent site:
>>
>><http://homepage.westmont.edu/u/mcs/rodkey/index.htm>
>
>
>Doug, the link does not exist. Please double check.
>

## 8. Re: [DSP:1181] Re: DGPS Modem? - slight change of subject

From: David Dicarlo <dicarlo@cygnus.sps.mot.com>
Date: Fri, 6 Nov 1998 16:06:48 -0600 (CST)
To: dsp@tapr.org
Message-ID: <199811062206.QAA04538@cygnus.dsp>
Rendered body type: text/plain

The 002EVM contains all the microcontroller functions necessary for it to be the equivalent of TAPR's MIC-E and the DGPS Reference Station. Has anyone modified or thought of modifying the FSK modem code to do either? Are there any volunteers?

david
WB2LIV

```
--------------------------------------------------------------------------------
David DiCarlo                           DSP Helpline & Technical Support
email: dicarlo@dsp.sps.mot.com          Motorola Wireless Subscriber Systems Group
Phone: 512-895-6941                     Mail Drop OE-314
FAX:   512-895-4665                     6501 William Cannon Drive West
                                        Austin Texas 78735-8598
--------------------------------------------------------------------------------

               For NEW calls, please use our web page at
                http://www.mot.com/SPS/DSP/contact.html
                or email us, at dsphelp@dsp.sps.mot.com
```


## 9. Re: [DSP:1182] Re: DGPS Modem? - slight change of subject

From: Douglas Braun <doug.braun@intel.com>
Date: Fri, 06 Nov 1998 17:10:29 -0800
To: dsp@tapr.org
Message-ID: <9811070112.AA20056@cadev5.intel.com>
Rendered body type: text/plain

```
At 04:10 PM 11/6/98 -0600, you wrote:
>The 002EVM contains all the microcontroller functions necessary for it to be
>the equivalent of TAPR's MIC-E and the DGPS Reference Station.  Has anyone
>modified or thought of modifying the FSK modem code to do either?  Are there
>any volunteers?

So does an ordinary PC (with a soundcard).  The limiting factor
is that you need a GPS engine that gives you the raw pseudorange
data, and you have to spend the bucks for it.

Doug
```

## 10. Re: [DSP:1180] Re: DGPS Modem?

From: forrerj@peak.org (Johan Forrer)
Date: Fri, 06 Nov 1998 19:45:55 -0800
To: dsp@tapr.org
Message-ID: <199811070349.TAA06888@peak.org>
Rendered body type: text/plain

```
Steve,

OK, I get the idea ... as you say I am fortunate to be able to receive
three Coast Guard DGPS stations on VLF. One in WA state, one near
Astoria and another down on our South Coast.

Project hardware consists of a mixer front end that takes any IF
input from around 2MHz down to about 20kHz. It produces an
I and Q output at about 15 kHz that feeds directly into the EVM's
CODEC for demodulation of CW, SSB etc .., including various
selective bandpass filters and electronic BFO.  I have been
using the 455 kHz IF output signal from my HF transceiver to
experiment with different algorithms exploring AGC, SSB detection
and general kinds of control components needed in a modern
DSP-based radio. It is amazing how well this works.

My mixer uses rather common parts --- a handful of 4066's driven
by a quadrature digital train that is derived off a chain of 74HC74's.
The master oscillator is a AD7008 DDS chip controlled by the
EVM. The DDS operates on a fixed frequency which can be
reprogrammed for any IF in the range mentioned above.

I yet have to finish the VLF loop antenna and RX amplifier for the DGPS
and the MSK DSP modem needs more work. I guess it is evident that this
project is all about learning something new, perhaps in the process ending
up with a piece of worthy equipment  that can be used as a building block later,
having some fun along the way!


>At 12:04 AM 11/6/98 -0600, you wrote:
>>Steve,
>>
>>I am a little puzzled by the TAPR DGPS solution .... maybe you can enliten
>>me please.
>>
>>DGPS is broadcast in the LF bands for a particular geographic area.
>>That require some sort of VLF receiver and MSK demodulator and decoder
>>to work with a GPS unit. Does not make sense to me to broadcast
```

>>DGPS on 2M ? How do we know it is accurate for your area?
>>
>>I have gotten a VLF DSP receiver project going using an EVM and home made
>>CMOS-switched mixer and was going to do the MSK demodulator to
>>tune to our Coast Guard DGPS transmissions for this purpose.
>>
>>Maybe I'm missing something?
>
>
>Johan, this may be due to some of the misconceptions I've addressed having
>designed the DGPSIB.  Many people think when told DGPS, that it implies the
>USCG system.  DGPS can be anything you want it to be.  I designed a
>low-cost reference station that you can put up yourself.  You are lucky to
>live on the coast, but what about those in Colorado?
>
>The requirement for a data link does not solely say VLF and MSK.  You can
>transmit RTCM SC-104 corrections on any data link you choose.  And
>transmiting it on 2 meters is fine?  Why do you say it does not make sense?
>
>Accuracy, take a look at my performance pages.  There's a link off of the
>DGPS page
>
>   http://www.tapr.org/gps/dgps/
>
>Go ahead and get a copy of SAWatch and plot a GPS receiver that is
>receiving USCG corrections and compare to my plots.  You will see the same,
>or better, performance.
>
>Your project sounds very interesting.  Can you tell me more?
>
>
>

## 11. Board for AD607

From: john.clark@state.co.us (by way of Greg Jones, WD5IVD)
Date: Mon, 9 Nov 1998 22:18:16 -0600
To: " TAPR/AMSAT DSP "<dsp@tapr.org>
Cc: john.clark@state.co.us (by way of Greg Jones, WD5IVD)
Message-ID: <v04011708b26d6eecbc6d@[207.8.125.50]>
Rendered body type: text/plain

Maybe someone can help John here.

Please be sure to e-mail John directly.
greg

---

Greg, maybe you can forward this to someone that may be able to help.
I would like to experiment with the AD607 IF Subsystem, but it only
comes on a 20-Pin SSOP with 0.0256 pin spacing.  AD wants $200 for their
proto board.  I'm looking for a board to mount this chip on.

Thanks for any help

73

John
N0URE

## 12. RE: [DSP:1185] Board for AD607

From: Mastenbrook Gary-G13216 <g13216@email1.wes.mot.com>
Date: Tue, 10 Nov 1998 07:29:47 -0600
To: "'dsp@tapr.org'" <dsp@tapr.org>,
        "'john.clark@state.co.us'"
 <john.clark@state.co.us>
Message-ID: <51F347B016ADD011963200805FC145620340E270@EMAIL1>
Rendered body type: text/plain

Greg-  Since John's email address didn't make it through, would you
please forward this to him?

John-  I saw recently somewhere (sorry can't recall exactly where) that
FAR Circuits was offering some type of surface mount IC proto boards for
experimenters to use for general type applications.  I think he is in
the NE Illinois (Dundee??) area, but I'd look for him on the web.  Fred
(the owner) has good prices and deals in small to large orders with no
problems heard of to date.
73's

Gary N8DMT
Chicago, IL

-----Original Message-----
From: john.clark@state.co.us [mailto:john.clark@state.co.us]
Sent: Monday, November 09, 1998 10:22 PM
To: dsp@tapr.org
Subject: [DSP:1185] Board for AD607


Maybe someone can help John here.

Please be sure to e-mail John directly.
greg

-----

Greg, maybe you can forward this to someone that may be able to help.
I would like to experiment with the AD607 IF Subsystem, but it only
comes on a 20-Pin SSOP with 0.0256 pin spacing.  AD wants $200 for their
proto board.  I'm looking for a board to mount this chip on.

Thanks for any help

73

John
N0URE

## 13. Show of Interest ?

From: john.clark@state.co.us
Date: Wed, 11 Nov 1998 13:23:26 -0700
To: <dsp@tapr.org>
Message-ID: <c=US%a=_%p=Colorado%l=EXCHANGE1-981111202326Z-150653@exchange1.state.co.us>
Rendered body type: text/plain

I am talking with FAR Circuits about a board to hold the AD607 IF
Subsystem.
www.analog.com gets $200 for their board.

Please e-mail direct to me if you would be interested in such a board
and any particular design requirements you would like.


73
John
N0URE
john.clark@state.co.us

## 14. DRSI card Broken

From: "Vittorio Moretti" <ik4iro@amsat.org>
Date: Thu, 19 Nov 1998 23:36:25 +0100
To: <ss@tapr.org>, <dsp@tapr.org>, <amsat-bb@amsat.org>
Message-ID: <004301be140d$301ba100$cf1acfc1@orso>
Rendered body type: text/plain

I have a DRSI card rev 10-89 broken.
I need a schematic or the techical manual, can somebody help me?
Thank's.
73 ik4iro Vittorio

## 15. Help: Can't get new EVM56K debugger to work

From: Douglas Braun <doug.braun@intel.com>
Date: Sat, 21 Nov 1998 05:02:34 +0200
To: dsp@tapr.org
Message-ID: <4.1.19981121045834.00960710@cadev5.intel.com>
Rendered body type: text/plain

Hello,

I decided to upgrade my copy of the Domain Technologies EVM56K debugger.
I was still using the old DOS one.  So I went and got: <ftp://ftp.domaintec.com/domtech/e002_307.zip>
which is their latest Windows version.  But when I ran it, it could not find my EVM card.
There is no command-line option to specify the port number.  It works
in demo mode, but then the menu option to change the port number doesn't work!

Do I have the right program?  Is there a fix for this?

Thanks,

Dou gBraun
N1OWU

## 16. Re: [DSP:1189] Help: Can't get new EVM56K debugger to work

From: Brahim HAMADICHAREF <brahim@rome.cis.plym.ac.uk>
Date: Sat, 21 Nov 1998 14:00:57 +0000
To: dsp@tapr.org
Message-ID: <3656C799.622FB8C4@cis.plym.ac.uk>
Rendered body type: text/plain

Douglas Braun wrote:
>
> Hello,
>
> I decided to upgrade my copy of the Domain Technologies EVM56K debugger.
> I was still using the old DOS one.  So I went and got:
> <ftp://ftp.domaintec.com/domtech/e002_307.zip>
> which is their latest Windows version.  But when I ran it, it could not find my EVM card.
> There is no command-line option to specify the port number.  It works
> in demo mode, but then the menu option to change the port number doesn't work!
>
> Do I have the right program?  Is there a fix for this?

I had the same problem but Peter told me that to force Debug-56k to go
to COM2, you need to put command line parameter -c2. But the software
should not initialize on COM1 if the EVM is not attached. It is checking
the protocol with the firmware.

Ask Peter Koenig (peter@domaintec.com) if you have any problems.

Regards

--
Brahim Hamadicharef - SECEE, University of Plymouth, England
URL: http://www.cis.plym.ac.uk/cis/brahim/   ICQ: 17232538
ComputerMusic/DSP/Electronics/TX16W/D10/Stamps/Kites/X-Files

## 17. Re: [DSP:1189] Help: Can't get new EVM56K debugger to work

From: "Mark L. Hammond" <hammond@camel.campbell.edu>
Date: Sat, 21 Nov 1998 09:49:18 -0500
To: dsp@tapr.org
Message-ID: <3.0.5.32.19981121094918.0082d100@camel.campbell.edu>
Rendered body type: text/plain

I just downloaded it and tried it.

AFTER I moved my connection from the Host to the ONCE Port ;-) it
recognized mine on com1 just fine.

Mark


At 04:17 AM 11/21/98 -0600, you wrote:
>Hello,
>
>I decided to upgrade my copy of the Domain Technologies EVM56K debugger.
>I was still using the old DOS one.  So I went and got:
<ftp://ftp.domaintec.com/domtech/e002_307.zip>
>which is their latest Windows version.  But when I ran it, it could not
find my EVM card.
>There is no command-line option to specify the port number.  It works
>in demo mode, but then the menu option to change the port number doesn't
work!
>
>Do I have the right program?  Is there a fix for this?
>
>Thanks,
>
>Dou gBraun
>N1OWU
>
>
>


Mark L. Hammond   [KC4EBR]

## 18. Re: [DSP:1190] Re: Help: Can't get new EVM56K debugger to work

From: Douglas Braun <doug.braun@intel.com>
Date: Sat, 21 Nov 1998 11:42:16 +0200
To: dsp@tapr.org
Message-ID: <4.1.19981121113831.009b8e40@cadev5.intel.com>
Rendered body type: text/plain

At 07:57 21/11/98 -0600, Brahim HAMADICHAREF wrote:

>I had the same problem but Peter told me that to force Debug-56k to go
>to COM2, you need to put command line parameter -c2. But the software
>should not initialize on COM1 if the EVM is not attached. It is checking
>the protocol with the firmware.
>
>Ask Peter Koenig (peter@domaintec.com) if you have any problems.

Thanks for the tip.  This command-line option isn't mentioned in
the list of options that you get with "evm56kw -H"  :-(

I have my EVM on COM1 (used to be COM2) and now everything works OK.

Doug

## 19. Re: [DSP:1189] Help: Can't get new EVM56K debugger to work

From: forrerj@peak.org (Johan Forrer)
Date: Sat, 21 Nov 1998 10:12:45 -0800
To: dsp@tapr.org
Message-ID: <199811211816.KAA28213@peak.org>
Rendered body type: text/plain

Doug,

Seems from the suggestions you received that changing your EVM to work on COM 1
made it work. Sounds suspiciously like it is using some default settings.

Here's another suggestion:
I have seen similar behavior before ---I found that when the debugger starts
up and finds
an existing initialization file, it will use that instead of walking you
though setup. I renamed that
file to force it to create a new one.

Good luck!

Johan

>Hello,
>
>I decided to upgrade my copy of the Domain Technologies EVM56K debugger.
>I was still using the old DOS one.  So I went and got:
<ftp://ftp.domaintec.com/domtech/e002_307.zip>
>which is their latest Windows version.  But when I ran it, it could not
find my EVM card.
>There is no command-line option to specify the port number.  It works
>in demo mode, but then the menu option to change the port number doesn't work!
>
>Do I have the right program?  Is there a fix for this?
>
>Thanks,
>
>Dou gBraun
>N1OWU
>
>
>

## 20. Re: [DSP:1189] Help: Can't get new EVM56K debugger to work

From: TBaggett@AustinTX.net (Tim Baggett)
Date: Sat, 21 Nov 1998 22:28:50 -0600
To: dsp@tapr.org
Message-ID: <36579302.487F@austintx.net>
Rendered body type: text/plain

Douglas Braun wrote:
>
> Hello,
>

> I decided to upgrade my copy of the Domain Technologies EVM56K debugger.
> I was still using the old DOS one.  So I went and got: <ftp://ftp.domaintec.com/domtech/e002_307.zip>
> which is their latest Windows version.  But when I ran it, it could not find my EVM card.
> There is no command-line option to specify the port number.  It works
> in demo mode, but then the menu option to change the port number doesn't work!
>
> Do I have the right program?  Is there a fix for this?
>
> Thanks,
>
> Dou gBraun
> N1OWU

Hi Doug,

I'm stabbing in the dark here...I'll have to try to duplicate your
problem. In the meantime, can you verify that you downloaded the
56002EVM debugger??? I'm concerned that you may have downloaded the
DSP56307 debugger. I'm confused about the filename scheme from the file
you mentioned. Perhaps it is version 3.07???

Tim

## 21. EVM65002 tools for Linux

From: Carles Perello <perello@imec.be>
Date: Mon, 23 Nov 1998 10:50:05 +0100 (CET)
To: dsp@tapr.org
Message-ID: <Pine.LNX.3.95.981123104012.243A-100000@latvia.imec.be>
Rendered body type: text/plain

Hi,

I want to work with the EVM using Linux. I have the tools from Jeff Dionne
which look very good..I have version 0.2.9 from year 96..does anybody know
if this is the last verion around?

I'll be working improving this software and  I want to start from the last
version available. (I've already wrote Jeff with no answer).

cheerio!

carles

## 22. EVM program for DGPS transmissions

From: Douglas Braun <doug.braun@intel.com>
Date: Mon, 23 Nov 1998 11:38:37 +0200
To: dsp@tapr.org
Message-ID: <4.1.19981123113354.0093fb80@cadev5.intel.com>
Rendered body type: text/plain

Hello all,

I went and put together a modem program for Differential GPS transmissions.
If you live near the coast (or Great Lakes or Missipi River), and you have a shortwave
receiver and a GPS unit, you might find it intersting, and possibly even useful.

You can get it from: <http://www.erols.com/dougbert/>.

You can find more info on DGPS from: <http://www.navcen.uscg.mil> and
<http://www.cnde.iastate.edu/staff/swormley/gps/dgps.html>.

Doug
N1OWU

## 23. Re: [DSP:1193] Re: Help: Can't get new EVM56K debugger to work

From: Douglas Braun <doug.braun@intel.com>
Date: Sat, 21 Nov 1998 21:06:06 +0200
To: dsp@tapr.org
Message-ID: <4.1.19981121210453.009be5c0@cadev5.intel.com>
Rendered body type: text/plain

The program seemed to search COM 3 to 9, and skip 1 and 2!
Strange...  But it is OK now.
Bummer that it is still a 16-bit Win3.1 program and not Win95...

Doug

At 12:18 21/11/98 -0600, you wrote:
>Doug,
>
>Seems from the suggestions you received that changing your EVM to work on COM 1
>made it work. Sounds suspiciously like it is using some default settings.
>
>Here's another suggestion:
>I have seen similar behavior before ---I found that when the debugger starts
>up and finds
>an existing initialization file, it will use that instead of walking you
>though setup. I renamed that
>file to force it to create a new one.
>
>Good luck!
>
>Johan
>
>
>
>>Hello,
>>
>>I decided to upgrade my copy of the Domain Technologies EVM56K debugger.
>>I was still using the old DOS one.  So I went and got:
><ftp://ftp.domaintec.com/domtech/e002_307.zip>
>>which is their latest Windows version.  But when I ran it, it could not
>find my EVM card.
>>There is no command-line option to specify the port number.  It works
>>in demo mode, but then the menu option to change the port number doesn't work!
>>
>>Do I have the right program?  Is there a fix for this?
>>
>>Thanks,
>>
>>Dou gBraun
>>N1OWU
>>
>>
>>
>

## 24. Re: [DSP:1194] Re: Help: Can't get new EVM56K debugger to work

From: Douglas Braun <doug.braun@intel.com>
Date: Mon, 23 Nov 1998 13:16:45 +0200
To: dsp@tapr.org
Message-ID: <4.1.19981123125704.00967130@cadev5.intel.com>
Rendered body type: text/plain

The "About" window says:

  EVM-56K rev. 3.07, ROM: 8.14
  Mode: DSP56002

It works now, but it is pretty slow, like 3x slower than the DOS version.
The only reason that I don't use the DOS one is that the
serial port often drops chars in a DOS program under my Win95
setup, and it's too painful to switch to DOS mode.

Doug


At 22:29 21/11/98 -0600, you wrote:
>Douglas Braun wrote:
>> I decided to upgrade my copy of the Domain Technologies EVM56K debugger.
>> I was still using the old DOS one.  So I went and got:
><ftp://ftp.domaintec.com/domtech/e002_307.zip>
>
>Hi Doug,
>
>I'm stabbing in the dark here...I'll have to try to duplicate your
>problem. In the meantime, can you verify that you downloaded the
>56002EVM debugger??? I'm concerned that you may have downloaded the
>DSP56307 debugger. I'm confused about the filename scheme from the file
>you mentioned. Perhaps it is version 3.07???
>
>Tim

## 25. Re: [DSP:1198] Re: Help: Can't get new EVM56K debugger to work

From: Brahim HAMADICHAREF <brahim@rome.cis.plym.ac.uk>
Date: Mon, 23 Nov 1998 18:45:38 +0000
To: dsp@tapr.org
Message-ID: <3659AD52.661FF8BA@cis.plym.ac.uk>
Rendered body type: text/plain

Douglas Braun wrote:
>
> The "About" window says:
>
>   EVM-56K rev. 3.07, ROM: 8.14
>   Mode: DSP56002
>
> It works now, but it is pretty slow, like 3x slower than the DOS version.
> The only reason that I don't use the DOS one is that the
> serial port often drops chars in a DOS program under my Win95
> setup, and it's too painful to switch to DOS mode.

There is Win95/NT version of the debugger called BoxView, a demo is
available from DomainTech web site. The demo run for a month only.
I found it faster but the month is gone now ...

Regards

--
Brahim Hamadicharef - SECEE, University of Plymouth, England
URL: http://www.cis.plym.ac.uk/cis/brahim/   ICQ: 17232538
ComputerMusic/DSP/Electronics/TX16W/D10/Stamps/Kites/X-Files

## 26. Re: [DSP:1196] EVM program for DGPS transmissions

From: forrerj@peak.org (Johan Forrer)
Date: Tue, 24 Nov 1998 06:57:35 -0800
To: dsp@tapr.org
Message-ID: <199811241501.HAA26272@peak.org>
Rendered body type: text/plain

Hi Doug,

Interesting  ....

I downloaded 3.07, installed it, and it found my EVM on COM2 with
no problems the first time. Wonder if this is related to the OS and
DEBUG interrelations?

73

Johan


>Hello all,
>
>I went and put together a modem program for Differential GPS transmissions.
>If you live near the coast (or Great Lakes or Missipi River), and you have
a shortwave
>receiver and a GPS unit, you might find it intersting, and possibly even
useful.
>
>You can get it from: <http://www.erols.com/dougbert/>.
>
>You can find more info on DGPS from: <http://www.navcen.uscg.mil> and
><http://www.cnde.iastate.edu/staff/swormley/gps/dgps.html>.
>
>Doug
>N1OWU
>
>
>

## 27. Re: [DSP:1200] Re: EVM program for DGPS transmissions

From: Douglas Braun <doug.braun@intel.com>
Date: Tue, 24 Nov 1998 11:50:41 +0200
To: dsp@tapr.org
Message-ID: <4.1.19981124114744.009bae90@cadev5.intel.com>
Rendered body type: text/plain

Who knows?  The DOS tools that use the serial port (e.g. SPY, the debugger)
used to work fine for me from a ordinary DOS window.  The one day,
they started missing characters from the port and acting flaky.  I have
no idea that I did to my system to cause this.  But I have a LOT

of device drivers, peripherals, daemon-type programs, etc. on my system.

By the way, I later found a 90-page manual for the windows-based debugger
(in PDF format) in their web site.

Doug


At 09:05 24/11/98 -0600, you wrote:
>Hi Doug,
>
>Interesting  ....
>
>I downloaded 3.07, installed it, and it found my EVM on COM2 with
>no problems the first time. Wonder if this is related to the OS and
>DEBUG interrelations?
>
>73
>
>Johan
>
>
>>Hello all,
>>
>>I went and put together a modem program for Differential GPS transmissions.
>>If you live near the coast (or Great Lakes or Missipi River), and you have
>a shortwave
>>receiver and a GPS unit, you might find it intersting, and possibly even
>useful.
>>
>>You can get it from: <http://www.erols.com/dougbert/>.
>>
>>You can find more info on DGPS from: <http://www.navcen.uscg.mil> and
>><http://www.cnde.iastate.edu/staff/swormley/gps/dgps.html>.
>>
>>Doug
>>N1OWU
>>
>>
>>
>

## 28. RE: DGPS modem

From: Douglas Braun <doug.braun@intel.com>
Date: Tue, 24 Nov 1998 12:56:41 +0200
To: David Dicarlo <dicarlo@cygnus.sps.mot.com>
Cc: dsp@tapr.org
Message-ID: <4.1.19981124125112.009d33e0@cadev5.intel.com>
Rendered body type: text/plain

Any beacon receiver that outputs RTCM data basically takes the received
bit stream (100 or 200BPS) and sticks each 6 bits in a data byte that
is output at 4800 or 9600 baud.  The top two bits of each byte need to be 01.
Also the bits are sent in reverse order, that is with the last-received
bit in the most significant RTCM bit.

My code examines the received bit stream to identify the 30-bit word boundaries
and check the parity.   This is only to light up the LED, it does not
affect the data output.

I have never found an online document describing the RTCM data format.
You have to pay $50 or so to get a paper copy.  Probably you need to sign
a NDA as well.

I learned the parity format, because it was the same as the freely-available
GPS signal spec.

Doug



At 11:01 24/11/98 -0600, you wrote:
>Do you have to do any data massaging of the Coast Guard tramsmitted data or
>does
>your modem just buffer the slow baudrate CG signals and speed it up for the
>GPS?
>
>Do you have a description of the the RTCM SC-104 correction strings?
>

>Thanks,
>david
>
>

## 29. Re: [DSP:1196] EVM program for DGPS transmissions

From: forrerj@peak.org (Johan Forrer)
Date: Tue, 24 Nov 1998 20:05:37 -0800
To: dsp@tapr.org
Message-ID: <199811250409.UAA23393@peak.org>
Rendered body type: text/plain

Hi Doug,

I was interested in looking your DGPS.ASM code over
but am afraid that the links are all broken on you web page.
That also goes for the old web page. Any suggestions?

73

Johan

>Hello all,
>
>I went and put together a modem program for Differential GPS transmissions.
>If you live near the coast (or Great Lakes or Missipi River), and you have
a shortwave
>receiver and a GPS unit, you might find it intersting, and possibly even
useful.
>
>You can get it from: <http://www.erols.com/dougbert/>.
>
>You can find more info on DGPS from: <http://www.navcen.uscg.mil> and
><http://www.cnde.iastate.edu/staff/swormley/gps/dgps.html>.
>
>Doug
>N1OWU
>
>
>

## 30. Re: [DSP:1203] Re: EVM program for DGPS transmissions

From: bsmeds@esoc.esa.de
Date: Wed, 25 Nov 1998 13:43:03 +0100
To: dsp@tapr.org
Message-ID: <412566C7.0046215B.00@esocmail1.esoc.esa.de>
Rendered body type: text/plain

I downloaded the DGPS.ASM without problem.
Right mouse click on the DGPS.ASM pointer and select "Save link as" if you
use Netscape 3.01
Regards
Boris Smeds

forrerj@peak.org (Johan Forrer) on 98-11-25 05:10:47

Please respond to dsp@tapr.org

To:   dsp@tapr.org
cc:    (bcc: Boris Smeds/esoc/ESA)
Subject:  [DSP:1203] Re: EVM program for DGPS transmissions

Hi Doug,

I was interested in looking your DGPS.ASM code over
but am afraid that the links are all broken on you web page.
That also goes for the old web page. Any suggestions?

73

Johan

>Hello all,
>

>I went and put together a modem program for Differential GPS
transmissions.
>If you live near the coast (or Great Lakes or Missipi River), and you have
a shortwave
>receiver and a GPS unit, you might find it intersting, and possibly even
useful.
>
>You can get it from: <http://www.erols.com/dougbert/>.
>
>You can find more info on DGPS from: <http://www.navcen.uscg.mil> and
><http://www.cnde.iastate.edu/staff/swormley/gps/dgps.html>.
>
>Doug
>N1OWU
>
>
>

## 31. Re: [DSP:1203] Re: Broken Web site

From: Douglas Braun <doug.braun@intel.com>
Date: Wed, 25 Nov 1998 09:48:13 +0200
To: dsp@tapr.org
Cc: forrerj@peak.org
Message-ID: <4.1.19981125094713.009d2ca0@cadev5.intel.com>
Rendered body type: text/plain

At 22:10 24/11/98 -0600, you wrote:
>Hi Doug,
>
>I was interested in looking your DGPS.ASM code over
>but am afraid that the links are all broken on you web page.
>That also goes for the old web page. Any suggestions?

Sorry, something bizarre happend to all the links during the
editing process.  It should be all OK now, and
all the links should work..

Doug

## 32. New version of Hamview

From: Alberto di Bene <dibene@usa.net>
Date: 27 Nov 98 10:32:50 MET
To: hfsig@tapr.org
Cc: dsp@tapr.org
Message-ID: <19981127093250.25609.qmail@www0i.netaddress.usa.net>
Rendered body type: text/plain

Version 2.10 of Hamview has been just uploaded to :
   http://www.freeyellow.com/members/padan

   HAMVIEW is a freeware program that:

- gets an audio signal either from a Sound Blaster(TM) compatible card or from
a .WAV file
- performs a windowed spectral analysis on the incoming signal
- displays the signal spectrum on the video screen using a carefully matched
color scheme
- performs some enhancement on the signal using signal processing methods
- plays the filtered signal at the output of the audio card
- and last but not least, all these goodies are done in real time! (well, to
be honest with about one second of delay from the input to the output, due to
the data windows used for signal analysis and processing).

   The program was especially developed for radio amateurs interested into all
those communication techniques where signals very close to (or more often
below) the receiver noise floor are used, like EME, VLF, and so on.

   All the hardware needed is:

- a Pentium computer with MS-DOS or PC-DOS 6.xx or greater (a W95 DOS session
is OK). Windows NT is not supported, as the program needs to talk directly to
the hardware, bypassing any driver, and this is not allowed under NT.
- a Creative SB16 sound card or better. Compatible cards should work, provided
that 100% hardware compatibility is assured, and the card is full-duplex
compatible.

   What's new in version 2.10 ?

- New INI file management (many more settings are now remembered)

- Passthrough mode (useful when tuning, as the audio delay is suppressed)
- Now both output channels are driven (this was a bug in the previous versions)
- The output volume is adjustable with cursor Up and Down keys
- The local time is diplayed at the full minute
- New graphics library, which means more compatibility with various video cards
- The East/West indicator has been moved to the bottom of the display
- Improved .WAV files management
- Medium speed and Fast speed modes added, dynamically changeable from the keyboard
- A few bugs have been exterminated

Enjoy, and, please, do bugs reporting ! Thanks.

73,
Alberto di Bene
I2PHD

_____
Get free e-mail and a permanent address at http://www.netaddress.com/?N=1

## 33. Re: [DSP:1206] New version of Hamview

From: bsmeds@esoc.esa.de
Date: Fri, 27 Nov 1998 11:25:39 +0100
To: dsp@tapr.org
Message-ID: <412566C9.00399C04.00@esocmail1.esoc.esa.de>
Rendered body type: text/plain

>Version 2.10 of Hamview has been just uploaded to :
>  http://www.freeyellow.com/members/padan
> HAMVIEW is a freeware program that:

I could not find anything on that page, just the background pattern.
73
Boris Smeds

## 34. Re:New version of Hamview

From: Alberto di Bene <dibene@usa.net>
Date: 27 Nov 98 13:50:33 MET
To: bsmeds@esoc.esa.de
Cc: dsp@tapr.org
Message-ID: <19981127125034.14764.qmail@www0q.netaddress.usa.net>
Rendered body type: text/plain

Boris,
       I have just checked, and the Web site works regularly.
Try again, may be it has been just a net glitch.

73,
Alberto di Bene
I2PHD

_____
Get free e-mail and a permanent address at http://www.netaddress.com/?N=1

## 35. Flash memory for EVM56K

From: Doug Faunt N6TQS +1-510-655-8604 <faunt@netcom.com>
Date: Sun, 29 Nov 1998 12:12:00 -0800 (PST)
To: dsp@tapr.org
Message-ID: <199811292012.MAA04085@netcom15.netcom.com>
Rendered body type: text/plain

In anticipation of getting the enclosure/IF kit for my EVM56K, I'd like to get the flash memory installed, but have not been able to locate the AT29C256PC mentioned in the documentation.
Is there an easy source for this, or an equivalent?

I thought this had been discussed in depth in the past, but can't locate that discussion in the archives.
73, doug

## 36. Re: [DSP:1209] Flash memory for EVM56K

From: Lyle Johnson <lylej@azstarnet.com>
Date: Sun, 29 Nov 1998 13:50:39 -0700
To: dsp@tapr.org

Message-ID: <3.0.5.32.19981129135039.0090a100@pop.azstarnet.com>
Rendered body type: text/plain

At 02:17 PM 11/29/98 -0600, you wrote:
>In anticipation of getting the enclosure/IF kit for my EVM56K, I'd
>like to get the flash memory installed, but have not been able to
>locate the AT29C256PC mentioned in the documentation.
>Is there an easy source for this,

I bought mine from Jameco.  It is an ATMEL part.

>or an equivalent?

No, ATMNEL handles programmming their FLASH a little bit diffferently than
other comapnies (don't they all do it just a little differently?) so you
really need to get the ATMEL part.

If Jameco doesn't still handle them, you might try browsing the
www.atmel.com website and see where it leads you...

73,

Lyle

## 37. Re: [DSP:1209] Flash memory for EVM56K

From: "Steven R. Bible" <n7hpr@amsat.org>
Date: Sun, 29 Nov 1998 16:29:18 -0500
To: dsp@tapr.org
Message-ID: <3.0.5.32.19981129162918.009dd770@pop.gate.net>
Rendered body type: text/plain

At 02:17 PM 11/29/98 -0600, you wrote:
>In anticipation of getting the enclosure/IF kit for my EVM56K, I'd
>like to get the flash memory installed, but have not been able to
>locate the AT29C256PC mentioned in the documentation.
>Is there an easy source for this, or an equivalent?
>
>I thought this had been discussed in depth in the past, but can't
>locate that discussion in the archives.

Doug, you can get the Atmel Flash memory from JDR.  JDR's P/N is
29C256-12PC and the price shown on their web site is $4.49 each.  Don't
forget to order a 28-pin DIP socket to go with it.

BTW - Status on the EVMRI...  All parts and enclosures are on order and
we're waiting for everything to arrive.  Once everything is in hand I'll
start the kitting process (on the kitchen table :-) and ship them to the
TAPR office for mailing to their respective destinations.

There has been some misconceptions on the EVMRI web page, that we're only
taking orders to the 15th of September, when in fact we'll continue to take
orders.  We'll keep kitting as long as there is interest in the EVMRI.

If you have not place your order, please do.  We hope to have the kits in
the mail by the end of December.

 - Steve
 (n7hpr@tapr.org)
 (n7hpr@amsat.org)

## 38. Re: [DSP:1211] Re: Flash memory for EVM56K

From: Douglas Braun <doug.braun@intel.com>
Date: Mon, 30 Nov 1998 10:07:54 +0200
To: dsp@tapr.org
Message-ID: <4.1.19981130100620.00970a90@cadev5.intel.com>
Rendered body type: text/plain

I got mine (at least a year ago) at Halted in Sunnyvale, CA.
This is a well-known surplus place.  But I
have no idea if they still have any in stock.

Doug Braun
N1OWU

## 39. 1998 ARRL and TAPR DCC Audio, Photos, Abstracts, and More

From: "Greg Jones, WD5IVD" <wd5ivd@tapr.org>
Date: Mon, 30 Nov 1998 15:25:13 -0600
To: "HF SIG  list   mailing"<hfsig@tapr.org>, " Spread Spectrum "<ss@tapr.org>,
        " TAPR/AMSAT DSP "<dsp@tapr.org>,
        "APRS SIG  list   mailing"<aprssig@tapr.org>,
        "NETSIG  list   mailing"<netsig@tapr.org>,
        "BBS SIG  list   mailing"<bbssig@tapr.org>,
        " tacgps "<tacgps@tapr.org>, aprsnews, mic-e,
        TAPR Regional Freq <regional_freq@tapr.org>,
        "TAPR-BB  list   mailing"<tapr-bb@tapr.org>
Message-ID: <v04020a06b288bb17413f@[128.83.74.104]>
Rendered body type: text/plain

The ARRL and TAPR DCC Web page has been updated to include all recorded
segments from the conference as well as a story and photo section.

Visit: http://www.tapr.org/dcc/

*  Listen to sessions from the 1998 ARRL and TAPR DCC over 30 hours covering
        Keynote by Dale Hatfield, W0IFO
                Chief of the FCC's Office of Engineering and Technology
        APRS National Symposium
        Packet Radio Users Group of Japan (PRUG) Technical Seminar
        Technical Paper Presentations
        Introductory Sessions
                Introduction to Spread Spectrum
                Introduction to PIC Development
                Introduction to MMDS/LMDS
        Friday Technical Seminar featuring Don Lemke, WB9MJN on
                Infrastructureless Packet Radio Networks
        Sunday Technical Seminars featuring:
                Lyle Johnson, WA7GXD -
                        RUDAK digital communications system
                Tim Shepard, KD1YK  -
                        Packet Radio Networks with Millions or Billions of
Stations


* 1998 Conference Overview Story

* Look at photos from the 1998 ARRL and TAPR DCC

* Review Abstracts from 1998 Proceedings

* Check out past Digital Communication Conferences Audio and Abstracts


as of now, the 1999 ARRL and TAPR DCC will be hosted in Phoenix, AZ in Sept
'99.  More information will be posted once a date and location has been
decided.

--------------------------------------------------------------------------
Tucson Amateur Packet Radio
8987-309 E Tanque Verde Rd #337 * Tucson, Az * 85749-9399
--------------------------------------------------------------------------
e-mail: tapr@tapr.org       web: <http://www.tapr.org/>
ftp:    ftp.tapr.org
phone:  940-383-0000        fax: 940-565-2544
--------------------------------------------------------------------------

## 40. Re: Flash memory for EVM56K

From: FoulCraven@aol.com
Date: Mon, 30 Nov 1998 19:22:47 EST
To: dsp@tapr.org
Message-ID: <2e9d27b.366336d7@aol.com>
Rendered body type: text/plain

I've used a 27256 EPROM that I've copied from an Amtel
part programmed on the 002EVM.  The EPROM works just
as well with the EVM as the flash... but you need a programmed
flash part to copy the program from or you need to convert
the .lod file to the byte-wide format for an EPROM programmer.

# December 1998

Original source file: dsp.9812
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/dspsig/mail_archive/dsp.9812

## 1. EVM 56002 Interface Kit Update

From: "Greg Jones, WD5IVD" <wd5ivd@tapr.org>
Date: Tue, 1 Dec 1998 19:34:26 -0600
To: " TAPR/AMSAT DSP "<dsp@tapr.org>
Message-ID: <v04020a01b28a48512435@[128.83.74.104]>
Rendered body type: text/plain

Hello everyone.

Just a note on the EVM interface kits.  We had a delay in a few of the
parts coming in which has put back the kitting. The enclosures are expected
around the 15th of December.  When that big ticket item shows up at the
office we will be charging everyone for their kits, since kitting should be
underway at that time and all the parts will need to be paid for.

We are going to try hard to have the kits shipped before Xmas, but one
never knows what can happen as Xmas approaches.  I'll post another update
as the kitting process happens to let you know what the status is.

We are kitting 100 EVM 56002 interface kits in this initial offering.  I
think we have orders for 72 currently.  So, if you still want to get into
the first round of kits -- please let Dorothy at the office know. (940)
383-0000

Cheers - Greg, WD5IVD
http://www.tapr.org
-----
Greg Jones, WD5IVD                Austin, Texas
wd5ivd@tapr.org      http://www.tapr.org/~wd5ivd

---

## 2. ASM56000 m_xxx definitions

From: "Thomas M. Alldread" <tmaldred@mail.island.net>
Date: Wed, 02 Dec 1998 13:10:33 -0800
To: dsp@tapr.org
Message-ID: <3665ACC9.FBB84349@mail.island.net>
Rendered body type: text/plain

Greetings All:

        I am presently on the ASM56000 learning curve and I am studying revision 1.18
of BIOS2.ASM. I notice that the peripheral configuration registers and
associated configuration bits are given an m_ prefix (e.g.. m_scr and m_tie) as
part of the ASM56002 syntax. To build my understanding I looked for the
associated m_xxx definition list and could not find it in either the ASM56000
documentation or within the CBIOS2.ASM file. It appears as if there might be a
56002 MPU specific header file embedded within the ASM56000 assembler which is
included by default without the need to use an INCLUDE statement. Have I missed
something here?

        BTW many thanks for the efforts from all those who have worked on the
development of CBIOS2 !!!

73 de
Tom, VE7TMA

---

## 3. Re: [DSP:1216] ASM56000 m_xxx definitions

From: Douglas Braun <doug.braun@intel.com>
Date: Wed, 02 Dec 1998 16:53:21 +0200
To: dsp@tapr.org
Message-ID: <4.1.19981202164857.009c1940@cadev5.intel.com>
Rendered body type: text/plain

You need the file "ioequlc.asm".
Near the top of bios2.asm, it should say:

        include 'ioequlc'

Note that the "lc" stands for "lower case".
The file ioequ.asm has upper-case versions of
all the symbols.  (The asembler is case-sensitive).

It also uses the file intequlc.asm, which has more symbol
definitions for interrupt vectors.

Doug
N1OWU

At 15:18 02/12/98 -0600, you wrote:
>Greetings All:
>
>       I am presently on the ASM56000 learning curve and I am studying revision 1.18
>of BIOS2.ASM. I notice that the peripheral configuration registers and
>associated configuration bits are given an m_ prefix (e.g.. m_scr and m_tie) as
>part of the ASM56002 syntax. To build my understanding I looked for the
>associated m_xxx definition list and could not find it in either the ASM56000
>documentation or within the CBIOS2.ASM file. It appears as if there might be a
>56002 MPU specific header file embedded within the ASM56000 assembler which is
>included by default without the need to use an INCLUDE statement. Have I missed
>something here?
>
>       BTW many thanks for the efforts from all those who have worked on the
>development of CBIOS2 !!!
>
>73 de
>Tom, VE7TMA
>

## 4. Soundblaster IC02E interfacing

From: "Hamoperator SM7UGT Marcel bos" <sm1ugt@hotmail.com>
Date: Sat, 05 Dec 1998 03:39:31 PST
To: dsp@tapr.org
Message-ID: <19981205113931.16750.qmail@hotmail.com>
Rendered body type: text/plain

Working on Stockholms first Hamradio Iphone link And I need a good way
to interface A IC02E to soundblaster.. Perhaps someone has a good
aidea on this?

SM0UGT@hotmail.com

_____
Get Your Private, Free Email at http://www.hotmail.com

## 5. New modems for EVM56002

From: Eduardo Jacob <jtpjatae@bicc00.bi.ehu.es>
Date: Mon, 07 Dec 1998 11:28:18 +0100
To: hfsig@tapr.org, dsp@tapr.org
Message-ID: <3.0.5.32.19981207112818.00840200@bicc00.bi.ehu.es>
Rendered body type: text/plain

You can try these new modems for the Motorola EVM56002DSP for AmFax, FmFax
and SSTV, they are intented to be used with JvComm32 program available at:

http://www.jvcomm.de/english/roote.htm

They have been designed by Ulrich Bangert DF6JB for his EasyDSP Unit and
modified by Jabi EA2ARU for use with the EVM.

mailto:govier02@sarenet.es

The files are here:

ftp://det.bi.ehu.es/pub/ham/evm/Fuentes/Amfax95.zip
ftp://det.bi.ehu.es/pub/ham/evm/Fuentes/Fmfax95.zip
ftp://det.bi.ehu.es/pub/ham/evm/Fuentes/Sstv95.zip

        I haven't tried myself, as I don't have the program.

        Eduardo/EA2BAJ
---------------------------------------------------------------------
Eduardo Jacob - Area de Ingenieria Telematica
Departamento de Electronica y Telecomunicaciones
ETSII y de IT               Tel: +34-(9)4-427 8055
UPV / EHU                   Fax: +34-(9)4-441 4041
Alda Urquijo s/n         E-mail: jtpjatae@bi.ehu.es
E-48013 - Bilbao (Spain)
PGP Key available: Send email w/subject: PGPKEY
fingerprint      : D8 FA 54 49 F7 40 BA AA 09 1A 73 40 A4 26 ED BD

## 6. Re: [HFSIG:2982] New modems for EVM56002

From: Robert McGwier <rwmcgwier@home.com>
Date: Mon, 07 Dec 1998 08:30:27 -0500
To: hfsig@tapr.org, dsp@tapr.org
Message-ID: <366BD872.BA0580FA@home.com>
Rendered body type: text/plain

How do I upload these to the TAPR servers?  It took me almost 15 minutes
to get the one window of IP data these files consumed from these
servers.
Eduardo Jacob wrote:
>
> You can try these new modems for the Motorola EVM56002DSP for AmFax, FmFax
> and SSTV, they are intented to be used with JvComm32 program available at:
>
> http://www.jvcomm.de/english/roote.htm
>
> They have been designed by Ulrich Bangert DF6JB for his EasyDSP Unit and
> modified by Jabi EA2ARU for use with the EVM.
>
> mailto:govier02@sarenet.es
>
> The files are here:
>
> ftp://det.bi.ehu.es/pub/ham/evm/Fuentes/Amfax95.zip
> ftp://det.bi.ehu.es/pub/ham/evm/Fuentes/Fmfax95.zip
> ftp://det.bi.ehu.es/pub/ham/evm/Fuentes/Sstv95.zip
>
>         I haven't tried myself, as I don't have the program.
>
>         Eduardo/EA2BAJ
> ----------------------------------------------------------------------
> Eduardo Jacob - Area de Ingenieria Telematica
> Departamento de Electronica y Telecomunicaciones
> ETSII y de IT               Tel: +34-(9)4-427 8055
> UPV / EHU                   Fax: +34-(9)4-441 4041
> Alda Urquijo s/n         E-mail: jtpjatae@bi.ehu.es
> E-48013 - Bilbao (Spain)
> PGP Key available: Send email w/subject: PGPKEY
> fingerprint      : D8 FA 54 49 F7 40 BA AA 09 1A 73 40 A4 26 ED BD

## 7. 68 MHz EVM CODEC calibration delay

From: "Thomas M. Alldread" <tmaldred@mail.island.net>
Date: Tue, 08 Dec 1998 14:39:17 -0800
To: dsp@tapr.org
Message-ID: <366DAA95.45AAC21B@mail.island.net>
Rendered body type: text/plain

Greetings All:

        As I continue along with my DSP EVM learning process I noticed that the default
clock rate option of BIOS2 sets up the DSP56002 to run at 68 MHz which is nice
as my DSP appears to run fine overclocked at that rate.

        I also noticed that the CODEC calibration period delay loop within the BIOS2
opencd macro appears to have 40 MHz values within it which should generate a
delay of approximately 31 mS at the 68MHz rate. I wonder if this is sufficient
delay for the CODEC calibration process as the CS4215 specification calls for 50
mS minimum?

        Would it be a wise idea to change the opencd macro using either of the
following approaches:

        1) Increase the REP statement immediate data from #2000 to #4000 to create a
delay of 50 mS at the highest 80 MHz clock option or about 59 mS at the 68 MHz
clock rate and more for slower rates.

                                        or

        2) Let the assembler calculate the REP immediate data with an
@cvi(xtal*100E-6/2) equation that would provide a near 50 mS delay for any of
the clock speed options.

        Thanks in advance for any comments or alternate recommendations.

73 de Tom, VE7TMA

## 8. Re: [DSP:1221] 68 MHz EVM CODEC calibration delay

From: Douglas Braun <doug.braun@intel.com>
Date: Tue, 08 Dec 1998 20:40:10 +0200

To: dsp@tapr.org
Message-ID: <4.1.19981208203829.00966100@cadev5.intel.com>
Rendered body type: text/plain

Thanks for the tip!  I nominate you to be an Official EVM Guru.

I will update the BIOS2 code that I maintain, but I am not sure when I will
have a chance to repackage and rerelease the whole bundle of stuff
that is on the TAPR FTP site...

Doug Braun
N1OWU

At 16:41 08/12/98 -0600, you wrote:
>Greetings All:
>
>       As I continue along with my DSP EVM learning process I noticed that the
>default
>clock rate option of BIOS2 sets up the DSP56002 to run at 68 MHz which is nice
>as my DSP appears to run fine overclocked at that rate.
>
>

## 9. Re: [DSP:1221] 68 MHz EVM CODEC calibration delay

From: Douglas Braun <doug.braun@intel.com>
Date: Wed, 09 Dec 1998 10:00:55 +0200
To: dsp@tapr.org
Message-ID: <4.1.19981209095720.00962e10@cadev5.intel.com>
Rendered body type: text/plain

If anyone feels that they need the fix right away, I put a fixed version of BIOS2.ASM
on my Web site:  <http://www.erols.com/dougbert>.

There are a few other changes that I have done to it since the last release.
Look at the comments at the top to find out.

If anyone discovers something in this does that doesn't work with the
TAPR EVM kit (e.g. LED usage), please let me know ASAP, and
I will probably change my hardware to be compatible with TAPR's.

Doug
N1OWU

## 10. RE: 68MHz EVM CODEC calibration delay

From: "Thomas M. Alldread" <tmaldred@mail.island.net>
Date: Wed, 09 Dec 1998 08:53:55 -0800
To: dsp@tapr.org
Message-ID: <366EAB23.4419945B@mail.island.net>
Rendered body type: text/plain

Greetings All:

        Thanks for the nomination Doug but I think I have many more DSP mountains to
climb before qualifying for the guru status. I don't even think I am even out of
the DSP foothills yet and it seems like there is a big forest blocking the view
of the trees, (:/)).

        I decided to replace the opencd macro delay loop REP statement with the
following line which seemed to generate the correct number (#$E9C or #3740) and
assemble OK without any error reports but I have not gotten around to loading
and testing it yet:

```
        rep     #@cvi(xtal*110e-6/2)          ; 110 us delay
```

        As I am not sure how critical this delay is I decided, just to be on the safe
side, to add 10% to the equation which should conservatively allow for DSP/CODEC
crystal tolerances. This should provide a corresponding 55 mS calibration delay
period which should permit us to focus on the 50 mS CODEC specification if this
delay is found to be too low in the future, (;/).

73 de Tom, VE7TMA

## 11. cbios2-TAPR EVMRI compatibility

From: "Thomas M. Alldread" <tmaldred@mail.island.net>
Date: Thu, 10 Dec 1998 17:45:19 -0800
To: dsp@tapr.org
Message-ID: <3670792F.6C2EDCB4@mail.island.net>

Rendered body type: text/plain

Greetings Doug:

>If anyone discovers something in this does that doesn't work with the
>TAPR EVM kit (e.g. LED usage), please let me know ASAP, and
>I will probably change my hardware to be compatible with TAPR's.

>Doug
>N1OWU

Although I do not have the TAPR kit and thus can not speak from experience with it I noticed from the rev. 2 EVMRI schematic that port B.9 appears to be utilized
to provide an MPU input for monitoring the status of the CTS/RTS serial port loop back. In order to monitor the CTS/RTS status the MPU port B.9 pin would need to be operated in the input mode as it is connected to one of the ULN2803 driver outputs.

I also noticed that the current version of bios2 configures the port B.9 I/O pin in the output mode. This suggests that there may be a difference between your interface hardware and the TAPR EVMRI with regards to the port B.9 pin usage which you may wish to look into further.

I hope this information is useful!

73 de Tom, VE7TMA

--
Very Best Regards,

Thomas M. Alldread

tmaldred@mail.island.net

## 12. Re: [DSP:1225] cbios2-TAPR EVMRI compatibility

From: Douglas Braun <doug.braun@intel.com>
Date: Thu, 10 Dec 1998 23:28:48 +0200
To: dsp@tapr.org
Message-ID: <4.1.19981210232629.00964100@cadev5.intel.com>
Rendered body type: text/plain

Yes, this is correct. In my setup, I use bit #9 to drive a relay that switches input sources. I am sure theat there are a couple of unused port B bits, so I can change my circuit to a bit that the TAPR circuit does not use. Then I can put out a version if the BIOS with the correct settings.

Doug

At 19:52 10/12/98 -0600, you wrote:
>Greetings Doug:

> Although I do not have the TAPR kit and thus can not speak from experience
>with
>it I noticed from the rev. 2 EVMRI schematic that port B.9 appears to be
>utilized
>to provide an MPU input for monitoring the status of the CTS/RTS serial port
>loop back. In order to monitor the CTS/RTS status the MPU port B.9 pin would
>need to be operated in the input mode as it is connected to one of the ULN2803
>driver outputs.
>
> I also noticed that the current version of bios2 configures the port B.9 I/O
>pin in the output mode. This suggests that there may be a difference between
>your interface hardware and the TAPR EVMRI with regards to the port B.9 pin
>usage which you may wish to look into further.

## 13. Re: [DSP:1225] cbios2-TAPR EVMRI compatibility

From: Douglas Braun <doug.braun@intel.com>
Date: Fri, 11 Dec 1998 00:04:16 +0200
To: dsp@tapr.org
Message-ID: <4.1.19981211000125.009653c0@cadev5.intel.com>
Rendered body type: text/plain

OK, I changed my BIOS2.ASM code to match the TAPR board. I can drive my relay from one of the other port B bits, where the TAPR board has a LED, and I do not.

You can get it from: <http://www.erols.com/dougbert>

Doug

N1OWU

> Yes, this is correct.  In my setup, I use bit #9 to drive a relay that switches
> input sources.  I am sure theat there are a couple of unused port B bits, so I can change
> my circuit to a bit that the TAPR circuit does not use.  Then I can put out a
> version if the BIOS with the correct settings.

Doug

At 19:52 10/12/98 -0600, you wrote:
>Greetings Doug:

>       Although I do not have the TAPR kit and thus can not speak from experience
>with
>it I noticed from the rev. 2 EVMRI schematic that port B.9 appears to be
>utilized
>to provide an MPU input for monitoring the status of the CTS/RTS serial port
>loop back. In order to monitor the CTS/RTS status the MPU port B.9 pin would
>need to be operated in the input mode as it is connected to one of the ULN2803
>driver outputs.
>
>       I also noticed that the current version of bios2 configures the port B.9 I/O
>pin in the output mode. This suggests that there may be a difference between
>your interface hardware and the TAPR EVMRI with regards to the port B.9 pin
>usage which you may wish to look into further.

## 14. IIR Development program for the EVM56002 ?

From: "Marcelo Puhl" <mark@plug-in.com.br>
Date: Fri, 11 Dec 1998 21:55:22 -2
To: dsp@tapr.org
Message-ID: <199812120100.WAA04222@bigbox.plug-in.com.br>
Rendered body type: text/plain

Is there any shareware program to aid in developing IIR/FIR filters for running
on the DSP56002 EVM board ?

Any info would be helpfull.

Thanks.

Marcelo Puhl - PY3SS
mark@plug-in.com.br

## 15. Re: [DSP:1228] IIR Development program for the EVM56002 ?

From: Douglas Braun <doug.braun@intel.com>
Date: Fri, 11 Dec 1998 19:27:48 +0200
To: dsp@tapr.org
Message-ID: <4.1.19981211192243.009e5340@cadev5.intel.com>
Rendered body type: text/plain

Several of the EVM programs have fancy assembler macros that calculate the coefficients based
on the center frequency and bandwidth.  There are also a couple of macros for making
Hilbert Transform filters (which generate I/Q complex signals).  I like this approach better than
running an external program and inserting a table of "magic number" constants into the .ASM file.
When this is done, it is impossible to modify the program if you don't have the software that
generated the filters.  Also, the parameters that were used to generate the filters never
seem to make it into the .ASM file as comments...

Doug Braun
SV/N1OWU

P.S.: There is a freeware program called "remez.exe" that will generate filters.  Find it
with Hotbot or something like that.  Probably it is on www.tapr.org somewhere...

At 18:00 11/12/98 -0600, you wrote:
>
>Is there any shareware program to aid in developing IIR/FIR filters for
>running
>on the DSP56002 EVM board ?
>
>Any info would be helpfull.
>
>Thanks.
>
>Marcelo Puhl - PY3SS
>mark@plug-in.com.br
>

## 16. Re: [DSP:1225] cbios2-TAPR EVMRI compatibility

From: forrerj@peak.org (Johan Forrer)
Date: Fri, 11 Dec 1998 17:42:46 -0800
To: dsp@tapr.org
Message-ID: <199812120146.RAA01065@peak.org>
Rendered body type: text/plain

Tom & Doug,

It may be of interest to look at further implementation of
these control pins for MT63, NEWQPSK, C-BPSK, PSK31,
and AMTOR/Pactor.

Jim, K6OYY have been testing using the TAPR PCB and found
things was pretty much working as expected.
Of these, only MT63 and NEWQPSK requires the "BIOS", the rest
does function independently and does their own control of the CODEC
and other peripherals.

Good to see the activities.

73, Johan KC7WW

>Greetings Doug:
>
>>If anyone discovers something in this does that doesn't work with the
>>TAPR EVM kit (e.g. LED usage), please let me know ASAP, and
>>I will probably change my hardware to be compatible with TAPR's.
>
>>Doug
>>N1OWU
>
>       Although I do not have the TAPR kit and thus can not speak from experience
with
>it I noticed from the rev. 2 EVMRI schematic that port B.9 appears to be
>utilized
>to provide an MPU input for monitoring the status of the CTS/RTS serial port
>loop back. In order to monitor the CTS/RTS status the MPU port B.9 pin would
>need to be operated in the input mode as it is connected to one of the ULN2803
>driver outputs.
>
>       I also noticed that the current version of bios2 configures the port B.9 I/O
>pin in the output mode. This suggests that there may be a difference between
>your interface hardware and the TAPR EVMRI with regards to the port B.9 pin
>usage which you may wish to look into further.
>
>       I hope this information is useful!
>
>73 de Tom, VE7TMA
>
>--
>Very Best Regards,
>
>Thomas M. Alldread
>
>tmaldred@mail.island.net
>
>
>

## 17. EVM enclosure kit

From: Alberto di Bene <dibene@usa.net>
Date: 17 Dec 98 16:29:44 MET
To: dsp@tapr.org
Message-ID: <19981217152949.25949.qmail@www0x.netaddress.usa.net>
Rendered body type: text/plain

Steve,
          I sent a few days ago an order for the subject kit, but haven't
received any confirmation so far. Did I make it for the first batch ? Does the
kit include the power supply ? If yes, would it possible to have it for a line
voltage of 220 V ? Thanks.

73, Alberto,  I2PHD

_____
Get free e-mail and a permanent address at http://www.netaddress.com/?N=1

## 18. Enclosures

From: Jim Lynch <k4gvo@mindspring.com>
Date: Fri, 18 Dec 1998 05:36:37 -0500
To: "dsp@tapr.org" <dsp@tapr.org>
Message-ID: <367A3035.1214F1E5@mindspring.com>
Rendered body type: text/plain

What's the status on the enclosures?

Thanks,
Jim.

## 19. Re: [DSP:1232] Enclosures

From: "Greg Jones, WD5IVD" <wd5ivd@tapr.org>
Date: Fri, 18 Dec 1998 09:37:19 -0600
To: dsp@tapr.org
Message-ID: <v04020a04b2a027174e48@[207.8.125.50]>
Rendered body type: text/plain

We are waiting for them to arrive from the mfg.  I need to call them today
and find out where they are on them.

Greg

>What's the status on the enclosures?
>
>Thanks,
>Jim.

-----
Greg Jones, WD5IVD                Austin, Texas
wd5ivd@tapr.org      http://www.tapr.org/~wd5ivd

## 20. Re: [DSP:1233] Re: Enclosures

From: Jim Lynch <k4gvo@mindspring.com>
Date: Sat, 19 Dec 1998 05:25:22 -0500
To: dsp@tapr.org
Message-ID: <367B7F12.12353A94@mindspring.com>
Rendered body type: text/plain

Hi, Greg,

Maybe I should rephrase that question.  I've got one of the beta units
and would like an enclosure.  However, there are no enclosures listed by
themselves for sale on the web page.  They appear to be a part of the
kit.  What I should have said is, "How can I get an enclosure?"

Thanks,
Jim.

Greg Jones, WD5IVD wrote:
>
> We are waiting for them to arrive from the mfg.  I need to call them today
> and find out where they are on them.
>
> Greg
>
> >What's the status on the enclosures?
> >
> >Thanks,
> >Jim.
>
> -----
> Greg Jones, WD5IVD                Austin, Texas
> wd5ivd@tapr.org      http://www.tapr.org/~wd5ivd

## 21. Re: [DSP:1234] Re: Enclosures

From: David Wilson Borden <dborden@laser.net>
Date: Sat, 19 Dec 1998 10:45:18 -0800
To: dsp@tapr.org
Message-ID: <199812191547.KAA03475@mailffx.LASER.NET>
Rendered body type: text/plain

I have the same problem.  I just need the enclosure...david,k8mmo

At 04:26 12/19/98 -0600, you wrote:
>Hi, Greg,
>
>Maybe I should rephrase that question.  I've got one of the beta units

>and would like an enclosure.  However, there are no enclosures listed by
>themselves for sale on the web page.  They appear to be a part of the
>kit.  What I should have said is, "How can I get an enclosure?"
>
>Thanks,
>Jim.
>
>Greg Jones, WD5IVD wrote:
>>
>> We are waiting for them to arrive from the mfg.  I need to call them today
>> and find out where they are on them.
>>
>> Greg
>>
>> >What's the status on the enclosures?
>> >
>> >Thanks,
>> >Jim.
>>
>> -----
>> Greg Jones, WD5IVD                 Austin, Texas
>> wd5ivd@tapr.org      http://www.tapr.org/~wd5ivd
>

## 22. EVM56002 SSI port & ONCE debugger

From: "Thomas M. Alldread" <tmaldred@mail.island.net>
Date: Thu, 24 Dec 1998 16:30:30 -0800
To: dsp@tapr.org
Message-ID: <3682DCA6.256243D0@mail.island.net>
Rendered body type: text/plain

Greetings to All:

        I am trying to read the EVM Codec control words back while single stepping through the SSI port access code via the ONCE port and the DEBUG EVM debugger.

        I wrote a routine that syncs to the transmit frame sync, transmit data empty, receive frame sync and receive data full flags. I don't seem to be having much success and I wonder if the SSI clock happens to be left running between single steps via the ONCE port which could through things out of sync with the frame structure???

        Has anyone here had success doing something similar?

        BTW Happy Holidays to everyone on this mailing list!

73 de Tom, VE7TMA

## 23. New versions of PSK31 by G3PLX: 56002EVM on Windows and SB on Windows

From: Eduardo Jacob <edu@kender.es>
Date: Sat, 26 Dec 1998 09:00:31 -0100
To: psk31@bipt106.bi.ehu.es
Cc: hfsig@tapr.org, dsp@tapr.org
Message-ID: <3.0.5.32.19981226090031.0085f570@kender.es>
Rendered body type: text/plain

As Christmas time is allways full of surprises and gifts Peter has produced two new versions of PSK31:

For Motorola EVM56002 on Windows available at:
ftp://det.bi.ehu.es/pub/ham/psk31/psk31evm.zip

Another for SoundBlaster (Yes, SoundBlaster and hopefully compatibles) on Windows, available at:

ftp://det.bi.ehu.es/pub/ham/psk31/psk31sbw.zip

These new versions have new tunning and level mettering helps.

        Regards

        Eduardo

## 24. ASM56000 assembler list MACRO expansion???

From: "Thomas M. Alldread" <tmaldred@mail.island.net>
Date: Sat, 26 Dec 1998 15:23:00 -0800
To: dsp@tapr.org
Message-ID: <36856FD4.FF490992@mail.island.net>

Rendered body type: text/plain

Greetings All:

I am wondering if there is an assembler directive that will expand the macros in the ASM56000 list output which would show the internal macro statements and the associated address assignments. This would make single stepping through macro calls a lot easier to follow.

I looked in the assembler manual and could not find a command to provide expansion of macros in the listing output. It seems to me it would be a function that would normally be provided - did I miss it???

73 de Tom, VE7TMA

## 25. Re: [DSP:1238] ASM56000 assembler list MACRO expansion???

From: TBaggett@AustinTX.net (Tim Baggett)
Date: Sat, 26 Dec 1998 23:09:03 -0600
To: <dsp@tapr.org>
Message-ID: <002001be3157$06c76840$8bb115d0@computer>
Rendered body type: text/plain

> I am wondering if there is an assembler directive that will expand the macros
>in the ASM56000 list output which would show the internal macro statements and
>the associated address assignments. This would make single stepping through
>macro calls a lot easier to follow.
>
> I looked in the assembler manual and could not find a command to provide
>expansion of macros in the listing output. It seems to me it would be a function
>that would normally be provided - did I miss it???

Hi Tom,

Yes, there is an assembler directive to expand macros in the listing. It is MEX for Macro EXpand.

73,
Tim
Austin, TX

## 26. Re: ASM56000 assembler list MACRO expansion???

From: "Thomas M. Alldread" <tmaldred@mail.island.net>
Date: Mon, 28 Dec 1998 09:52:06 -0800
To: dsp@tapr.org
Message-ID: <3687C546.5640B552@mail.island.net>
Rendered body type: text/plain

Greetings Tim:

> From: TBaggett@AustinTX.net (Tim Baggett)
> Yes, there is an assembler directive to expand macros in the listing. It is
> MEX for Macro EXpand.

Thank you for making me aware of the MEX command! I will remember to look in the OPT directive command list in the future. As I suspected I didn't see it in the manual because of all the trees in the forest, (:/).

Thanks again and happy Holidays!

73
Tom, VE7TMA

## 27. TAPR FTP Site

From: "Greg Jones, WD5IVD" <wd5ivd@tapr.org>
Date: Tue, 29 Dec 1998 00:57:57 -0600
To: "HF SIG list mailing"<hfsig@tapr.org>, " Spread Spectrum "<ss@tapr.org>,
" TAPR/AMSAT DSP "<dsp@tapr.org>,
"APRS SIG list mailing"<aprssig@tapr.org>,
"NETSIG list mailing"<netsig@tapr.org>,
"BBS SIG list mailing"<bbssig@tapr.org>,
" tacgps "<tacgps@tapr.org>, aprsnews, mic-e,
TAPR Regional Freq <regional_freq@tapr.org>
Cc: "Bill Westradio Pasternak"<billwa6itf@aol.com>,

"Len  KB7LPW   Winkler"<lenwink@indirect.com>,
"Hap  KC9RP RAIN Holly"<hholly@ais.net>,
"Greg Jones WD5IVD" <wd5ivd@tapr.org>, "Rich   CQ VHF"<CQVHF@aol.com>,
"Gagne, Jennifer,  N1TDY" <jgagne@arrl.org>,
"Donald   Rotolo"<73227.2644@compuserve.com>,
"Stan   Horzepa"<stanzepa@nai.net>,
" Bob Hansen (TAPR) "<psr@tapr.org>,
"Ham Radio On-line" <vbook@vbook.com>,
" Tom McDermott "<mcdermot@eagle.aud.alcatel.com>,
<rlindquist@arrl.org>, "Brad Smith, KC5SP" <brads@galstar.com>
Message-ID: <v04020a20b2ae2874411e@[207.43.172.66]>
Rendered body type: text/plain

Please be aware that the TAPR FTP site (ftp://ftp.tapr.org) has undergone a
major reorganization as part of the upcoming web site restructuring and
redesign.

If you have links on web pages that reference into our ftp site, please
take a moment to check them and update those URLs to reflect the changes at
our site.

The shallower directory structure should make things easier for individuals
visiting our site to find files and information.

Sorry for any inconvenience this might cause.

Cheers - Greg Jones, WD5IVD
TAPR

----

The new FTP directory structure:

ftp://ftp.tapr.org
Top Level:
        aprssig/
                WinMacData/
                aprsnews/
                dosstuff/
                        APRSdos/
                        DOSmisc/
                garmin/
                history/
                javastuff/
                linux/
                macstuff/
                        MacAPRS/
                        MacGPS/
                        MacMisc/
                        PacketTracker/
                mail_archive/
                maps/
                        100K_Not_On_CD/
                        MacMaps/
                        PCMaps/
                        WinMacMaps/
                mic-e/
                movies/
                palmstuff/
                        palmaprs/
                        palmmaps/
                        palmmisc/
                        palmos/
                presentations/
                shlib/
                upload/
                winstuff/
                        APRSPLUS/
                        Waypoint/
                        WinAPRS/
                        WinMisc/

        bbssig/
                mail_archive/

        das/
                mail_archive/

        dcc/

```
dsp/
        dsp56000/
        dsp56001/
        dsp56002/
        mail_archive/
        psa_sound_card/
        recent_uploads/
        tms320c10/
        tms320c26/
        tms320c50/
        upload/

dsp93/
        Paccomm_eproms/
        diskettes/
        dsp93_eproms/
        mail_archive/
        manuals/
        schems/
        simulators/
        software/
        software.list
        source/
        stlouis.wrkshp.95/
        updates/
        upload/
        util/

general/
        9600baud/
                ALINCO/
                ICOM/
                KENWOOD/
                MOTOROLA/
                YEASU/

gps/
        HPAN52-2/
        garmin/
        motorola/

hfsig/
        mail_archive/

info/
        kits/
        logos/
        publications/

netsig/
        mail_archive/

psr/

pub/

regional_freq/
        mail_archive/

software_lib/
        DEMOS/
        Linux/
        RF/
        UPLOAD/
        an93/
        bbs/
        dsp/
        gps/
        listing
        misc/
        sat/
        switch/
        tcpip/
        terminal/
        thenet.txt
        tnc/
        utils/
        weather/
```

```
        ss/
                mail_archive/
                SS_STA/
                dcc97_ss_seminar/

        tac2/
                mail_archive/

        talnet/

        tapr-bb/
                mail_archive/

        tapr-tnc/
                mail_archive/

        utils/

-----
Greg Jones, WD5IVD                 Austin, Texas
wd5ivd@tapr.org      http://www.tapr.org/~wd5ivd
```

## 28. Help! with broken dsp2232

From: Dennis Cahill <dcahill@adinet.com.uy>
Date: Tue, 29 Dec 1998 08:26:47 -0300
To: dsp@tapr.org
Message-ID: <3.0.5.32.19981229082647.007c1ba0@adinet.com.uy>
Rendered body type: text/plain

Hi!

Can anyone suggest a fix for a dsp2232 that gives the following message at
startup, even after a reset?

```
AEA DSP-2232 Data Controller
Copyright (C) 1986-1993 by
Advanced Electronic Applications, Inc.
Release 01.DEC.93
Ver. 7.0

cmd:*** 1e: DSP software load failed
```

At this point the cmd and dcs leds for both ports stay on.

Thanks, CX7AP, Dennis.

## 29. Re: [DSP:1238] ASM56000 assembler list MACRO expansion???

From: Douglas Braun <doug.braun@intel.com>
Date: Tue, 29 Dec 1998 12:35:14 +0200
To: dsp@tapr.org
Message-ID: <4.1.19981229123419.00972730@cadev5.intel.com>
Rendered body type: text/plain

Did you try "option mex"?

Also, "option mu" is very handy, it prints a summary of memory usage in the listing.
To use them together, do "option nex,mu"

Doug

At 17:24 26/12/98 -0600, you wrote:
>Greetings All:
>
>       I am wondering if there is an assembler directive that will expand the macros
>in the ASM56000 list output which would show the internal macro statements and
>the associated address assignments. This would make single stepping through
>macro calls a lot easier to follow.
>
>       I looked in the assembler manual and could not find a command to provide
>expansion of macros in the listing output. It seems to me it would be a
>function
>that would normally be provided - did I miss it???
>
>
>73 de Tom, VE7TMA
>

## 30. Re: [DSP:1236] EVM56002 SSI port & ONCE debugger

From: Douglas Braun <doug.braun@intel.com>
Date: Tue, 29 Dec 1998 12:33:04 +0200
To: dsp@tapr.org
Message-ID: <4.1.19981229123013.009fd7a0@cadev5.intel.com>
Rendered body type: text/plain

Hello,

I have never had much luck debugging real-time programs with the ONCE debugger. Apparently, whenever you hit a breakpoint, the CPU stops responding to interrupt requests from the CODEC, and the buffers start overflowing, etc.  I have found the "spy" utility to be much more useful.

Doug
N1OWU

At 18:34 24/12/98 -0600, you wrote:
>Greetings to All:
>
>       I am trying to read the EVM Codec control words back while single stepping
>through the SSI port access code via the ONCE port and the DEBUG EVM debugger.
>73 de Tom, VE7TMA

## 31. Re: [DSP:1242] Help! with broken dsp2232

From: David Seeler <seeler@upei.ca>
Date: Wed, 30 Dec 1998 09:47:05 -0400
To: dsp@tapr.org
Message-ID: <01J5Y0FGB9O0A3DWQ1@upei.ca>
Rendered body type: text/plain

Date sent:              Tue, 29 Dec 1998 05:27:30 -0600 (CST)
From:                   Dennis Cahill <dcahill@adinet.com.uy>
Subject:                [DSP:1242] Help! with broken dsp2232
To:                     dsp@tapr.org
Send reply to:          dsp@tapr.org

> Hi!
>
> Can anyone suggest a fix for a dsp2232 that gives the following message at
> startup, even after a reset?
>
>
> AEA DSP-2232 Data Controller
> Copyright (C) 1986-1993 by
> Advanced Electronic Applications, Inc.
> Release 01.DEC.93
> Ver. 7.0
>
> cmd:*** 1e: DSP software load failed
>
>
>
> At this point the cmd and dcs leds for both ports stay on.
>
> Thanks, CX7AP, Dennis.
>

Hi Dennis - The best of the season and may you and your
family have a great New Year!!!

I do not know of a specific fix - but I do remember a year or
two ago someone had a similar problem and another user
suggested that they re-seat the DSP chip in its socket as
they apparently work loose and give intermittent problems.

May not work - or you may of tried but thought I'd mention it.

Have fun and stay safe!

David Seeler, VY2DCS

PS  - I've never recieved a reply from timewave regarding the
DSP2232 so I guess they have other problems.  Too bad Bob
never released the code he was working on.

Best Regards,
David Seeler, VY2DCS

## 32. New SIG for the Kenwood THD7A/E

From: "Horzepa, Stan" <Stan_Horzepa@adc.com>
Date: Wed, 30 Dec 1998 12:57:46 -0600
To: AO16APRS <ao16aprs@tapr.org>, APRS-FL <aprs-fl@tapr.org>,
APRSNEWS
 <aprsnews@tapr.org>, APRSSIG <aprssig@tapr.org>,
BBSSIG
 <bbssig@tapr.org>, DSP sig <dsp@tapr.org>,
HFSIG <hfsig@tapr.org>, HTAPRS <htaprs@tapr.org>,
MIC-E sig <mic-e@tapr.org>, NETSIG
 <netsig@tapr.org>,
PROPNET sig <propnet@tapr.org>,
REGIONAL_FREQ sig
 <regional_freq@tapr.org>, SS sig <ss@tapr.org>,
TACGPS sig
 <tacgps@tapr.org>, TAPR-BB sig <tapr-bb@tapr.org>,
TAPR-TNC
 <tapr-tnc@tapr.org>
Message-ID: <1B66FFC6BE1CD211A0620008C7A42AC21EF760@MRDNEXCH01.ct.adc.com>
Rendered body type: text/plain

TAPR is pleased to announce the formation of a new special
interest group, the HTAPRS SIG.

The purpose of HTAPRS is to provide a forum for the discussion
of issues related to the Kenwood THD7A/E transceiver. (HTAPRS
is also intended to lessen the number of messages on TAPR's
APRSSIG by moving THD7A/E traffic off that SIG.)

To subscribe to the HTAPRS mail list, send email to
listserv@tapr.org with the following text in the body of the
message:

   subscribe htaprs your_first_name your_last_name

## 33. PSK31 on RTTY list

From: Doug Faunt N6TQS +1-510-655-8604 <faunt@netcom.com>
Date: Wed, 30 Dec 1998 17:42:52 -0800 (PST)
To: hfsig@tapr.org, dsp@tapr.org, bpsk@qth.net
Message-ID: <199812310142.RAA14808@netcom9.netcom.com>
Rendered body type: text/plain

Just recently, there's a lot of interest and discussion of PSK31 on the
wf1b-rtty@wf1b.com RTTY list.
73, doug

## 34. Re: "Spy" utility

From: Douglas Braun <doug.braun@intel.com>
Date: Thu, 31 Dec 1998 00:33:11 +0200
To: Tao Zhang <zhangt@mail.welchallyn.com>
Cc: dsp@tapr.org
Message-ID: <4.1.19981231002442.0096fd90@cadev5.intel.com>
Rendered body type: text/plain

"Spy" is a DOS-based program that reads data bytes from the EVM via the serial port, and
graphically displays them in more-or-less real-time.  Most of the EVM programs (at least the
ones of Finnish ancestry) have a subroutine to sent the data with the correct protocol.
To use it, you temporarily insert a call to the spy routine in the EVM code at the spot
where the data of interest is generated.  Then you run the EVM program and also run SPY.EXE
on the PC.  You get to see pretty waveforms, etc.  on your PC. Of course if the EVM program uses the
serial
port for other purposes, you have to temporarily disable that.

You should find everything at: ftp://ftp.tapr.org/dsp/recent_uploads/n1owu_11.zip

Unfortunately the documentation is pretty skimpy.  This program was written by
the Finnish Alef Null people who wrote a lot of other EVM software.  The version
in n1owu_11.zip has a few enhancements that I added.

Good Luck,

Doug
N1OWU

At 18:39 30/12/98 -0500, you wrote:
>
>Hi,
>
>Sorry to cut in.  Could you tell me what "spy" is and where I can find it?
>
>Thanks.
>
> -Tao

## 35. ESDI disk, Quiktrak Y2K, Timewave DSP2232 source

From: Robert McGwier <rwmcgwier@home.com>
Date: Thu, 31 Dec 1998 19:17:09 -0500
To: amsat-bb@amsat.org, dsp@tapr.org, hfsig@tapr.org
Message-ID: <368C1405.316B62F0@home.com>
Rendered body type: text/plain

Howdy:

I have an ESDI drive with Quiktrak source,  Timewave (AEA) DSP2232 source, the C
compiler used to compile Quiktrak, source code
for many other things of great importance to me,  ASM56000 assembler,
signals development tools that I wrote and would like to have.

Let's try this again.  The help that has been offered to me so far,
I believe I can do myself but would NOT like to do, that is, plug the Ultrastor
ESDI card into an available ISA slot and then copy off what
is needed one slow floppy at a time.  I don't have the cables to
connect the ESDI drive to the card. I don't have a tape back up
as I keep copies of everything, elsewhere.  My ultimate wish list
for this would be find someone who already has an ESDI card, ready
to go, in some old machine that they can easily get the stuff off
and onto to some mass storage device that I can ftp and get the
data to my development machine.  The entire drive is 150 Meg's
and the stuff I want is not so large as this.

If anyone thinks they can and will help, let me know.

Bob

## 36. Re: ASM56000 assembler list MACRO expansion???

From: "Thomas M. Alldread" <tmaldred@mail.island.net>
Date: Thu, 31 Dec 1998 11:41:38 -0800
To: dsp@tapr.org
Message-ID: <368BD372.B409FADA@mail.island.net>
Rendered body type: text/plain

Greetings Doug:

>From: Douglas Braun <doug.braun@intel.com>

>Did you try "option mex"?

>Also, "option mu" is very handy, it prints a summary of memory usage in the listing.
>To use them together, do "option nex,mu"

        Many thanks for the response! I now have both options activated and I agree the
memory summary is also a nice one for helping to keep ones perspective on memory
usage in focus.

73 de Tom, VE7TMA

# January 1999

Original source file: dsp.9901
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/dspsig/mail_archive/dsp.9901

## 1. Re: [DSP:1242] Help! with broken dsp2232

From: TBaggett@AustinTX.net (Tim Baggett)
Date: Fri, 1 Jan 1999 23:06:44 -0600
To: <dsp@tapr.org>
Message-ID: <006a01be360d$b2220000$89b115d0@computer>
Rendered body type: text/plain

>Can anyone suggest a fix for a dsp2232 that gives the following message at
>startup, even after a reset?
>
>
>AEA DSP-2232 Data Controller
>Copyright (C) 1986-1993 by
>Advanced Electronic Applications, Inc.
>Release 01.DEC.93
>Ver. 7.0
>
>cmd:*** 1e: DSP software load failed
>

Hi Dennis,

Sounds like the DSP has failed. This is a design flaw of the DSP2232. The DSP package used is horrible. If you open it up I believe you will find the DSP marked DSP56000Z or something similar. The key is having the 'Z' in the part name as it refers to the 'slam-pack' package used by Motorola at that time. Over time, it exhibits poor connection properties. The best way to 'fix' this problem is to take the DSP chip out of the socket, and use a pencil eraser to clean the contacts.

I use 'fix' loosely here. All you are doing is re-establishing contact between the DSP and the socket by removing the oxidation. It very well could develope the same problem again.

Also, be VERY careful with the DSP as it ***CANNOT*** be replaced. Motorola quit making the slam-pack version of the DSP56K several years ago. No, there are no sockets that will allow a TQFP, PGA, or other package type to plug into the slam-pack socket (well, at least not at the price you would want to spend...)

Good luck getting it to work. Although I strongly believe this to be the problem with your DSP2232, please note that I have not seen the inside of one, or even a slam-pack socket. I did have a slam-pack DSP once (but I broke it).

73,
Tim, AA5DF

## 2. Quiktrak, DSP2232, Y2K, ESDI continued

From: Robert McGwier <rwmcgwier@home.com>
Date: Sun, 03 Jan 1999 08:44:27 -0500
To: amsat-bb@amsat.org, dsp@tapr.org, hfsig@tapr.org
Message-ID: <368F743B.F407F3DE@home.com>
Rendered body type: text/plain

Thanks to everyone who replied.  I have the perfect offer of help
from NJ1H.  I really appreciate all the offers of help and well
wishes.

Happy New Year!
Bob, N4HY

## 3. EVM56002 Problem

From: "Jean-Francois Joly" <jolyal@capitalnet.com>
Date: Sun, 3 Jan 1999 10:31:45 -0500
To: <dsp@tapr.org>
Message-ID: <001101be372e$2c92e400$aa38bfce@fisherma>
Rendered body type: text/plain

A friend borrowed me his EVM56K board to play with it for a while. After installing all the hardware and software, I loaded-up  a few programs and tried them one by one on the dsp. I came to realize that only the headphone jack worked. When I plugged the speakers in the OUT jack, I couldn't hear

anything. (Sometimes I could but it was very faint) Seems like only the
headphone's working...

Is there any dip switch setting that enables/disables the OUT jack? Just
beside this jack, it is written "J14". Does it have anything to do with
this?

Thank you!
Jean-Francois

## 4. Re: [DSP:1253] EVM56002 Problem

From: TBaggett@AustinTX.net (Tim Baggett)
Date: Sun, 3 Jan 1999 11:24:01 -0600
To: <dsp@tapr.org>
Message-ID: <001301be373d$dc2e30e0$92b115d0@computer>
Rendered body type: text/plain

>
>Is there any dip switch setting that enables/disables the OUT jack? Just
>beside this jack, it is written "J14". Does it have anything to do with
>this?

The DIP switch is actually a software switch inside the CODEC.  Before using
the CODEC, the DSP must first initialize it. It initializes such things as
sample rates, sample sizes, linear vs mu-law, etc. Once the DSP switches the
CODEC into data mode, there is still control information being sent to the
CODEC. It is within this control information (when in data mode) that the
line out and headphones can be independently turned on or off.

>From the CS4215 data sheets (you can download it from www.crystal.com ) the
bits controlling the line out and headphone enabled option are described.
They are bits 7 in time slot 5 for the headphone enable, and bit 6 for the
line out enable.

There is also a speaker output enable in bit 6 of timeslot 6, but note that
the speaker output is not used in the DSP56002EVM.

Somewhere within the software there are EQU statements defining constants to
be sent to the CODEC during these data time slots. You should be able to
modify these constants to enable the line out. I am not familar with the
details of the amateur radio software written for the EVM, or I'd be more
precise. I expect you will get answers from others who have written amateur
code for the EVM.

I believe the J14 next to the line out connector is the designator for the
connector itself. I don't have a schematic handy to verify this.

73,
Tim, AA5DF
Austin, TX

## 5. Re: [DSP:1253] EVM56002 Problem

From: Douglas Braun <doug.braun@intel.com>
Date: Sun, 03 Jan 1999 20:58:19 +0200
To: dsp@tapr.org, jolyal@capitalnet.com
Message-ID: <4.1.19990103205705.009fe140@cadev5.intel.com>
Rendered body type: text/plain

Hello,

The OUT jack has no amplifier to drive sepakers!  It is a line-level output that
needs an external amplifier to drive speakers.

Doug Braun
N1OWU

At 09:32 03/01/99 -0600, you wrote:
>A friend borrowed me his EVM56K board to play with it for a while. After
>installing all the hardware and software, I loaded-up  a few programs and
>tried them one by one on the dsp. I came to realize that only the headphone
>jack worked. When I plugged the speakers in the OUT jack, I couldn't hear
>anything. (Sometimes I could but it was very faint) Seems like only the
>headphone's working...
>
>Is there any dip switch setting that enables/disables the OUT jack? Just
>beside this jack, it is written "J14". Does it have anything to do with

>this?
>
>Thank you!
>Jean-Francois
>

## 6. Re: [DSP:1255] Re: EVM56002 Problem

From: TBaggett@AustinTX.net (Tim Baggett)
Date: Sun, 3 Jan 1999 21:17:21 -0600
To: <dsp@tapr.org>
Message-ID: <003c01be3790$bf816860$86b115d0@computer>
Rendered body type: text/plain

>The OUT jack has no amplifier to drive sepakers!  It is a line-level output
that
>needs an external amplifier to drive speakers.

Oh, how so true! Thanks for pointing out the obvious and keeping the detail
swamped guys like me honest, hihi!

the OUT jack is

73,
Tim, AA5DF

## 7. Re: [DSP:1254] Re: EVM56002 Problem

From: "Jean-Francois Joly" <jolyal@capitalnet.com>
Date: Sun, 3 Jan 1999 22:09:21 -0500
To: <dsp@tapr.org>
Message-ID: <001201be378f$a165b1c0$a438bfce@fisherma>
Rendered body type: text/plain

>The DIP switch is actually a software switch inside the CODEC.  Before
using
>the CODEC, the DSP must first initialize it. It initializes such things as
>sample rates, sample sizes, linear vs mu-law, etc. Once the DSP switches
the
>CODEC into data mode, there is still control information being sent to the
>CODEC. It is within this control information (when in data mode) that the
>line out and headphones can be independently turned on or off.

Oh! That's what I thaught... Glad you've found the problem!

Thank you very much!
Jean-Francois

## 8. Re: [DSP:1256] Re: EVM56002 Problem

From: "Jean-Francois Joly" <jolyal@capitalnet.com>
Date: Sun, 3 Jan 1999 23:13:02 -0500
To: <dsp@tapr.org>
Message-ID: <001e01be3798$86b1aba0$a438bfce@fisherma>
Rendered body type: text/plain

Hey Tim,

how are you? I was wondering, where did you get your interest in DSPs? Are
you an electronic engineer?

I'd really like to have the skill for writing my own DSP programs and
everything. But I think it requires a lot of complex math. Do you have this
background in mathematics? Is it really necessary to understand deeply all
the mathematics involved in DSP programming to write some simple programs
for basic applications?

I'm just in my fifth year in high school and I'm doing the best I can to
learn the most. I can't wait to go to university and learn the mathematics
needed for this!

Thank you!
Jean-Francois

## 9. Sorry guys...

From: "Jean-Francois Joly" <jolyal@capitalnet.com>
Date: Sun, 3 Jan 1999 23:16:50 -0500
To: <dsp@tapr.org>
Message-ID: <002a01be3799$0f1dfca0$a438bfce@fisherma>

Rendered body type: text/plain

Sorry guys for my last message. It was addressed to Tim but I accidentally
sent it to the hole group. Stupid me! Its not the first time it happens! :)

Once again, sorry for the inconvenience.

>Hey Tim,
>
>how are you? I was wondering, where did you get your interest in DSPs? >Are
you an electronic engineer?
>
>I'd really like to have the skill for writing my own DSP programs and
>everything. But I think it requires a lot of complex math. Do you have this
>background in mathematics? Is it really necessary to understand deeply >all
the mathematics involved in DSP programming to write some simple >programs
for basic applications?
>
>I'm just in my fifth year in high school and I'm doing the best I can to
>learn the most. I can't wait to go to university and learn the mathematics
>needed for this!
>
>Thank you!
>Jean-Francois

## 10. Re: [DSP:1259] Sorry guys...

From: TBaggett@AustinTX.net (Tim Baggett)
Date: Mon, 04 Jan 1999 08:57:39 -0600
To: dsp@tapr.org
Message-ID: <3690D6E3.54EF@austintx.net>
Rendered body type: text/plain

Jean-Francois Joly wrote:
>
> Sorry guys for my last message. It was addressed to Tim but I accidentally
> sent it to the hole group. Stupid me! Its not the first time it happens! :)
>
> Once again, sorry for the inconvenience.

No Problem. The TAPR mail lists  pretty much force you to do this as
they change all email headers to reflect the mail list address. I don't
much care for it myself.

73,
Tim, AA5DF

## 11. Re: [DSP:1260] Re: Sorry guys...

From: John Koster <w9ddd@tapr.org>
Date: Mon, 4 Jan 1999 15:39:53 -0600 (CST)
To: dsp@tapr.org
Message-ID: <Pine.BSI.3.95.990104153735.4817A-100000@tapr.org>
Rendered body type: text/plain

Color me stupid, but the antique mail program I use prompts me when I do a
reply and asks me if want the reply to go to the 'from' or 'reply to'
address.  Why that feature (or bug?) doesn't exist in the more modern mail
programs I don't know.

John Koster, W9DDD
<w9ddd@tapr.org>

  ========================================================================
   Character - doing what is right when no one is watching. J. C. Watts

On Mon, 4 Jan 1999, Tim Baggett wrote:

> Jean-Francois Joly wrote:
> >
> > Sorry guys for my last message. It was addressed to Tim but I accidentally
> > sent it to the hole group. Stupid me! Its not the first time it happens! :)
> >
> > Once again, sorry for the inconvenience.
>
>
> No Problem. The TAPR mail lists  pretty much force you to do this as
> they change all email headers to reflect the mail list address. I don't
> much care for it myself.

>
> 73,
> Tim, AA5DF
>
>

## 12. Re: [DSP:1261] Re: Sorry guys...

From: TBaggett@AustinTX.net (Tim Baggett)
Date: Mon, 4 Jan 1999 21:12:04 -0600
To: <dsp@tapr.org>
Message-ID: <003b01be3859$2cec96e0$85b115d0@computer>
Rendered body type: text/plain

-----Original Message-----
From: John Koster <w9ddd@tapr.org>
To: dsp@tapr.org <dsp@tapr.org>
Date: Monday, January 04, 1999 4:18 PM
Subject: [DSP:1261] Re: Sorry guys...

>Color me stupid, but the antique mail program I use prompts me when I do a
>reply and asks me if want the reply to go to the 'from' or 'reply to'
>address.  Why that feature (or bug?) doesn't exist in the more modern mail
>programs I don't know.

Hi John,

Don't really want to get into the details (as they've been beated to death
on other TAPR lists in the past).

Personally, I don't think the mail list server should munge headers:

Reply-To: dsp@tapr.org
Originator: dsp@tapr.org
Sender: dsp@tapr.org
Precedence: bulk
From: John Koster <w9ddd@tapr.org>
To: dsp@tapr.org

I think it should only act as a reflector. As you can see, it changed the
sender, reply-to, and originator lines. In fact, I'm not certain though, but
I believe there are even Internet RFC's that don't want mail servers to
change headers. This is to allow to tracing, etc.

Some mail program are smart enough to tell a difference between reply-to and
the from line. Others (microsoft - don't get me started on that one...)
blindy use the reply-to without asking. I prefer Pine under UNIX as you are
also using, and it asks if I want to use the reply-to or from address which
is nice.

The TAPR lists are the only lists I've ever seen set up like this, and I do
find it an annoyance. Agreed, if the mail program writers (listening Mr
Gates?) would ASK which address to use, it would me much nicer. But with
both of the deviations, we will continue to see the innocent slip-ups, and
much more so on the TAPR lists than others.

So, that's my two cents. I don't mind if TAPR keeps it this way, or changes
it. I know it was discussed in the past. I'm flexible. I believe it was set
up this way to promote discussion on the mail lists my forcing the email
back to the group, unless one forces it back to the original sender.
Unfortunatly, it is very easy for one to remember, especially if they are
new online) to change the address if they are using a smarty-pants mailer
such as I'm using now (Outlook).

I've learned to *ALWAYS* review the mail headers many times before sending
it. Good thing to learn when on the Internet to avoid embarassing one's
self, hihi!

73,
Tim, AA5DF

## 13. EVM Update

From: "Greg Jones, WD5IVD" <wd5ivd@tapr.org>
Date: Tue, 5 Jan 1999 12:23:11 -0600
To: " TAPR/AMSAT DSP "<dsp@tapr.org>
Message-ID: <v04020a08b2b807866d1e@[207.8.125.50]>

Rendered body type: text/plain

As an update ---

The enclosures arrived just before Christmas and the kits are being
prepared and shipped to Denton.

Sorry for the delay, but two of our volunteers had deaths in the family
over the holidays and this slowed down the process a lot.

I think we have one or two minor issues to get resolved once the kits
arrive at the office.  Once those are taken care of, we should be able to
start shipping the kits out.

The office will be charging everyone's Credit Cards sometime this week.

I am attaching two photos of the unit that Steve took last week.

I'll be working on updating the web page this week as well with the new photos.

It looks very good!

Cheers - Greg

P.S.  You can get the unstuff utility for Windows at
ftp://ftp.tapr.org/software_lib/utils/SITEX10.EXE
[Attachment: evm.sit; application/octet-stream; 158,900 bytes]

## 14. PCTL register

From: Lorenzo Midulla <midulla@provincia.parma.it>
Date: Tue, 05 Jan 1999 20:35:17 +0100
To: dsp@tapr.org
Message-ID: <3.0.2.32.19990105203517.007af820@atene.provincia.parma.it>
Rendered body type: text/plain

Does anybody know why is the PCTL 56002 register usually set to $261009
instead of $260009?

The $261009 value sets a multiplication factor of 10 but also a division
factor of 2 (see DSP56000 Family Manual - Table 9.2)!!

Is there anything I miss?

Lorenzo
IW4EBN

## 15. Re: [DSP:1264] PCTL register

From: TBaggett@AustinTX.net (Tim Baggett)
Date: Tue, 5 Jan 1999 15:02:01 -0600
To: <dsp@tapr.org>
Message-ID: <003c01be38ee$a566c420$8cb115d0@computer>
Rendered body type: text/plain

>Does anybody know why is the PCTL 56002 register usually set to $261009
>instead of $260009?
>
>The $261009 value sets a multiplication factor of 10 but also a division
>factor of 2 (see DSP56000 Family Manual - Table 9.2)!!
>
>Is there anything I miss?

Hi Lorenzo,

You didn't refer to the specific done in which you find the PCTL register
being programmed to this value, but I believe you may have come across
something I first asked when at Motorola two years ago.

The 56002EVM has a 4MHz crystal clock input. The PLL will them multiply this
clock up to the operating frequency.

Since the MF bits in the example you provided at 10, the PLL will multiply
the 4 MHz clock up to 40 MHz which is the VCO output frequency.

When PCTL is set to $261009, the VCO will be divided by 2, giving a Low
Power Divider (LPD) output of 20 MHz as you suspect.

However, the Chip's operating frequency, and the CKOUT signal can actually

be taken from the VCO output, *OR*  the LPD output! This is selected by bit 21, CSRC bit (see 56000 Family Manual Pg 9-9, Section 9.2.5.7). When the PCTL is set to $261009 or $260009 the VCO is at 40 MHZ in each case, and the CKOS bit is set such that the DSP operates from this 40 MHz clock.

Now, if you connect an oscilloscope probe to the CKOUT pad on the EVM, you will notice a 20 MHz clock when the PCTL register is set to $261009. This is because the CKOUT signal is taken from the output of the Low Power Divider (LPD) because bit 22, CKOS, is clear.

Hope this clears the mud! At one time, I was certain Motorola was shipping all their demo software to run at 20 MHz instead of 40 MHz as well! There's a lot of details to know and remember! Thanks for the email!

73,
Tim, AA5DF
Austin, TX

## 16. New Version of PSK31 for SoundBlaster on Windows

From: Eduardo Jacob <edu@kender.es>
Date: Wed, 06 Jan 1999 00:06:34 -0100
To: psk31@bipt106.bi.ehu.es
Message-ID: <3.0.5.32.19990106000634.036d46e0@kender.es>
Rendered body type: text/plain

In Spain the night of January 5th the kids go to bed hoping that the Three Wise Men will bring them many presents... Although we are not any more kids, you will find the last version of PSK31 for Windows and SoundBlaster by Peter G3PLX with Waterfall display and new Help material. As usual available at:

ftp://det.bi.ehu.es/pub/ham/psk31/psk31sbw.zip

As usual newcomers can find information about PSK31 at

http://aintel.bi.ehu.es/psk31.html

Regards

Eduardo/EA2BAJ

Regards

## 17. New Version of PSK31 (1.03) for SoundBlaster on Windows

From: Eduardo Jacob <edu@kender.es>
Date: Sat, 09 Jan 1999 22:50:32 -0100
To: psk31@bipt106.bi.ehu.es
Message-ID: <3.0.5.32.19990109225032.0088b320@kender.es>
Rendered body type: text/plain

You can have the last version of PSK31 for Windows and SoundBlaster by Peter G3PLX with a bigger Waterfall display, new Help material and some buglets fixed. As usual available at:

ftp://det.bi.ehu.es/pub/ham/psk31/p31sb103.zip

As usual newcomers can find information about PSK31 at

http://aintel.bi.ehu.es/psk31.html

Regards

Eduardo/EA2BAJ

Regards

## 18. EVM RI Kit

From: "Greg Jones, WD5IVD" <wd5ivd@tapr.org>
Date: Sun, 10 Jan 1999 14:18:30 -0600
To: " TAPR/AMSAT DSP "<dsp@tapr.org>
Message-ID: <v04011707b2beba0836bd@[207.43.172.70]>
Rendered body type: text/plain

The TAPR EVM56002 Radio Interface kits will start shipping on Monday or Tuesday.  We have 80 something orders for the first 100 kits now at the office.

It will take the office a few days to get all the orders shipped out.

For more details see: http://www.tapr.org/tapr/html/dsp56002evm.html

The assembly manual can be viewed: ftp://ftp.tapr.org/dsp/evmri/evmri_assem.pdf

Credit cards will be run starting tonight.

For those waiting on this unit, thanks for your patience.  We believe the
extra time required for kit to get completed has been worth it.

Cheers - Greg Jones, WD5IVD
TAPR
-----
Greg Jones, WD5IVD                Austin, Texas
wd5ivd@tapr.org      http://www.tapr.org/~wd5ivd

## 19. Re: G3RUH .asm

From: Douglas Braun <doug.braun@intel.com>
Date: Mon, 11 Jan 1999 16:54:49 -0500
To: "Bjoern Stokke" <bstokke@c2i.net>, dsp@tapr.org
Message-ID: <4.1.19990111163341.00a5d860@cadev5.sc.intel.com>
Rendered body type: text/plain

Hello,

One thing you should know:  "My" G3RUH modem is 99.9% identical to
Jarkko's version.  I simply changed some simple things like
the memory locations and the LED usage.  The performance
should be the same as the original.

The problem you mention below is caused by a bug in LEONID.ASM.
This file is missing some symbol definitions only when EVM56K==0,
i.e. when it is compiled for DSP Card 4.  Around line 105,
there needs to be some code like this:

```
    if (EVM56K==0)
topmem equ ...
kiss_pars equ ...
sci_buflen equ ...
    endif
```

I have never compiled or test any of my code with EVM56K==0,
so there could be many other bugs in LEONID.ASM, BIOS2.ASM,
or the various application .ASM files.

There is one main difference between the DVM mode and the DSP Card 4 modes:
The original AlefNull Leonid code put the BIOS code sort of in the middle of the memory,
leaving two seperate chunks of memory space for applications to use.  In BIOS2.ASM
(with EVM56K>0), I moved it to the top of the memory so that the application would
have one continuous memory spece to work with.

Because of this difference, you can be messy to have applications that can be
compiled for both the EVM and DSP Card 4.  One solution would be for the
DSP Card 4 users to adopt the memory map that I used.  If this was done,
the only differences between the EVM and the DSP Card 4 would be
some details of the CODEC interfacing, which can be hidden in the BIOS code.

The Alef Null Leonid BIOS also supported a scheme where several applications
could be burned into the EPROM, and a short command from the serial port
would activate a chosen one.  Since I always had a PC attached to my EVM,
which could quickly download any desired program, I did not keep this feature
in my BIOS2 for EVM.

I hope this helps,

Doug
N1OWU

At 01:46 PM 1/9/99 +0100, you wrote:
>Hello Doug..!
>
>Re: DSP4 and G3RUH.asm.
>
>Please - if you can give me a tip on this problem:
>
>Your modem:

>g3ruh.asm 1.5 1996 12/10.
>
>Using 56k assembler ver. 5.3.2,
>Leonid (tried different versions for dsp4/evm that you have
>written)
>comp. as need be for card DSP4,
>
>I get this following error:
>
>"****897 (g3ruh.asm 465) ERROR --- symbol undefined on pass 2:
>kiss_pars (Operand field)
>
>You may take a closer look at the g3ruh.lst.
>
>May I possibly change one - or more - lines in your g3ruh.asm
>as I would like to test your modem with the DSP4 card.
>The card runs fine with Jarkko's g3ruh.modem as of 22.03.96 and
>Leonid of same date.
>However , I also have the EVM56002 card running, with Jabi's EA2ARU
>eprom ver.7.2, and the g3ruh modem loaded here is definitely performing
>better!
>As you may know, there is a difference in the "input shaping" of the
>signal ,before entering the codec, between the DSPCARD4 and the EVM
>card, and I intend to find out if this has any significant influence
>on the overall performance ;-)
>
>Hopefully you have a spare moment to comment on this :-) !
>
>Best regards
>
>Bjoern Stokke  LA5ZL
>
>e.mail: bstokke@c2i.net
>
>
>

## 20. Article about PSK31 by Peter Martinez G3PLX

From: Eduardo Jacob <edu@kender.es>
Date: Wed, 13 Jan 1999 22:54:26 -0100
To: psk31@bipt106.bi.ehu.es
Message-ID: <3.0.5.32.19990113225426.00801540@kender.es>
Rendered body type: text/plain

I have put in the PSK31 Homepage http://aintel.bi.ehu.es/psk31.html an
article by Peter Martinez G3PLX about PSK31. The article has appeared in
the November and December RGSB's Radcom Magazine and explains the origin,
implementation and details of both BPSK and QPSK modes. It's also available
directly from the URL:

        http://det.bi.ehu.es/~jtpjatae/pdf/p31g3plx.pdf

        Regards

        Eduardo/EA2BAJ

## 21. AMSAT/TAPR DSP-93 for sale

From: "Mark L. Hammond" <hammond@camel.campbell.edu>
Date: Wed, 13 Jan 1999 19:29:22 -0500
To: dsp@tapr.org
Message-ID: <3.0.6.32.19990113192922.008594f0@camel.campbell.edu>
Rendered body type: text/plain

I am reluctantly offering my DSP-93 unit for sale.  It hasn't seen use for
a while now, so I think it's time to offer it to someone who might need it.

Details of what I'm offering in the package:

AMSAT/TAPR DSP-93 unit
        unit is neatly assembled and fully functional
        cosmetically very good
        the unit is a beta unit, but that point is pretty irrelevent as it
functions and   has VERY few physical differences from the production units

MFJ-1270C TNC
        this is required for many (but not all) of the software packages that will
run on  the DSP-93 (such as 1200 FSK packet, 1200 PSK packet, or 9600 FSK
packet)

prewired/ready to plug-n-play with the above DSP-93
custom switch up front to switch between 1200/9600 baud modes

extra EPROMs, "wall wart" power supplies for both boxes above, assembly manual, DSP-93 software, cables, etc. (the cables are setup for a Kenwood TS-790A microphone connector for 1200PSK/FSK modes, and a 5 pin DIN that connects to my custom jack for 9600 baud).

This unit is completely functional and ready to go. No work or repairs needed.

I'll sell this unit to a good home ;) for US$225 (you pay your preferred method of shipping on top of that).

I consider this a very good price for a very good DSP unit. I barely have time to play with my TAPR EVMRI setup, so something has to go.

Please contact me directly should you be interested at mailto:hammond@camel.campbell.edu

Mark L. Hammond [KC4EBR]

## 22. Linux as DSP platform

From: forrerj@peak.org (Johan Forrer)
Date: Wed, 13 Jan 1999 20:44:03 -0800
To: dsp@tapr.org
Message-ID: <199901140445.UAA26383@peak.org>
Rendered body type: text/plain

My 2 cents ...

This idea has some appeal for reasons metioned on this list. I would, however, be sceptical at going about this with a low-end processor. Consider nothing less that at least a 233 MHz Pentium or AMD K6. Those are cheap enough now and will not choke on common DSP tasks when running simultaneously with a GUIs desktop.

I have had good experiences using a K6 using MMX as well as non-MMX DSP applications on Linux, but there are times, like for example, when heavy network activity starts up, that the audio starts breaking up. Linux was not designed for real time work.
In this respect, it is worth mentioning that there is an ongoing RTLinux project (http://luz.cs.nmt.edu/~rtlinux/) that is ideal for this kind of thing. Here a small a hard-realtime task switcher is in control of real time events and Linux happens to be only another task that does not have special priviledges. It has some resemblance to QNX or VxWorks and like all other Linux stuff, the price is right. In fact this project is looking for folks wanting to bring some DSP work into the project.

Would be nice if one of our own amateur radio DSP gurus could show us how to put something like this together.

How about that for a worthwhile fun project ?

73,
Johan, KC7WW

## 23. acar modem for dsp?

From: "Don Elsner" <elsner@csd.uwm.edu>
Date: Fri, 15 Jan 1999 17:46:35 -0600
To: <dsp@tapr.org>
Message-ID: <006d01be40e1$4a65aff0$040120c0@don>
Rendered body type: text/plain

Does anyone have or know of some acar (aircraft communications) modem software for either a dsp56002 or analog devices 2101?

73 - Don KS9F

## 24. Re: [DSP:1273] acar modem for dsp?

From: Douglas Braun <doug.braun@intel.com>
Date: Fri, 15 Jan 1999 19:31:07 -0500
To: dsp@tapr.org
Message-ID: <4.1.19990115193011.00afa100@cadev5.sc.intel.com>
Rendered body type: text/plain

A couple of years ago I started modifying some other program to try
to make one.  But I didn't have a detailed enough spec for ACARS, so I gave up.
If you want, I'll dig it up and mail it to you.

Doug

At 05:55 PM 1/15/99 -0600, you wrote:
>Does anyone have or know of some acar (aircraft communications) modem
>software for either a dsp56002 or analog devices 2101?
>
>73 - Don KS9F
>
>
>

## 25. Re: [DSP:1274] Re: acar modem for dsp?

From: "Don Elsner" <elsner@csd.uwm.edu>
Date: Fri, 15 Jan 1999 20:14:46 -0600
To: <dsp@tapr.org>
Message-ID: <00cc01be40f5$fdb18f70$040120c0@don>
Rendered body type: text/plain

Doug-
I would appreciate any info that you can pass my way.  Did you ever check
out www.arinc.com?

Thanks & 73 - Don ks9f

elsner@csd.uwm.edu

## 26. EVM CBIOS2/LEONID ONCE Debugger stop/restart fix

From: TMA <tmaldred@mail.island.net>
Date: Sat, 16 Jan 1999 12:49:20 -0800
To: dsp@tapr.org
Message-ID: <36A0FB50.A1C46B34@mail.island.net>
Rendered body type: text/plain

Greetings All:

I have written new versions of the BIOS2 'confcod' subroutine and the LEONID 'waitblk' macro which if found suitable I propose be placed in general distribution. It has been suggested that I post the details here on the TAPR DSP mailing list to solicit feedback on the suitability of these revised EVM monitor components. As these routines are fundamental to the operation of the EVM they should be tested with a wide variety of applications prior to being placed into the standard distribution package.

As an exercise for learning the basic ins and outs of the EVM56002 environment I decided to spend some time studying the DSP56002 SSI communications protocol, the initialization of the the CS4215 CODEC and the synchronism of the associated interrupt/application data buffer pointers. In the process I took a look at some Motorola SSI interrupt service routines (ISRs) and compared them to the current distribution BIOS2 methods. I liked the BIOS2 short ISR approach from a speed and code efficiency viewpoint but I noticed it was lacking the cyclic SSI frame-sync-check/buffer-pointer-lock feature which the longer
Motorola ISRs complete for each frame. The present BIOS2/LEONID routines only set up the proper timing relationship between the buffer pointers and frame sync during initialization. In contrast the Motorola ISR complete a frame sync/buffer pointer alignment check on an ongoing basis for each communications frame.

During the routine running of an application these two approaches perform equally well as long as the application signal processing code keeps up with the frame rate. However there is a significant performance difference when one is attempting to step through code with the ONCE port debugger. When one stops the MPU with the debugger in the middle of an application the CS4215 CODEC, which operates in the master mode after initialization, keeps on sending frames of data towards the 56002 SSI port. When the application is re-started it is unlikely that the r7 data pointer will be properly aligned with the current incoming data word and unless the application has the ability to re-establish synchronism it will most likely fail.

In practice I found efforts to restart an application with the ONCE port debugger, without doing a reset and initialization, failed for most attempts. By studying the buffers I concluded that on restart the r7 interrupt buffer pointer was in fact pointing randomly out of synchronism with the structured buffer data blocks previously set up by the LEONID 'cntrlcd macro'. The lack of ability to stop and restart applications midstream with the debugger

is significant as it prevents one from studying the data acquisition and flow through the buffers.

I decided to write an alternate frame re-sync version of the LEONID 'waitblk macro' which I decided to name 'waitblk2'. It can be added to the LEONID code as an alternative to waitblk. Waitblk2 does the following:

a) It provides the buffer pointer alignment features of the existing macro.

b) It provides the frame lock feature of the Motorola ISRs.

c) It utilizes the existing efficient SSI short interrupt code.

Once implemented within the application in place of 'waitblk', 'waitblk2' allowed me to successfully stop and restart applications midstream with the ONCE port debugger. This now provides me with the capability for repetitively freezing and viewing the data flow through the buffers.

My study of the BIOS2 'confcod' subroutine used for the initialization of the CODEC did not build up my confidence that the CS4215 was being properly initialized. An examination of the rx buffer contents after stopping the Motorola initialization routine when CLB bit toggled to zero revealed the proper control words had been looped back by the CS4215. I found that I could not confirm the control word register contents using a similar approach with the BIOS2 'confcod' routine.

Although I believe that the existing 'confcod' routine must work as the EVM would not function properly otherwise I decided I would try and write a new initialization routine that would:

a) Include control word data checking as recommended within the CS4215 data sheet.

b) Use code that could be traced and confirmed with a CLB=0 debugger break point.

c) Utilize the existing SSI short interrupt code as opposed to the 'outblk' subroutine for the initialization I/O.

I have tested my 'confcod' and 'waitblk2' code with the FEEDTHRU, RTCOEFF and QRMQRN applications obtained from the Douglas Braun, N10WU web page and they seem to run OK. I have tested the new waitblk2 with the original confcod, the new confcod with the original waitblk and the two new routines together with all three applications. They worked OK for these combinations for me but there
are no doubt different buffer structures in use that I have not tried out. There are no guarantees implide folks and you are welcome to implement them out at your own risk!

The only ONCE port debugger limitation I have noticed with 'waitblk2' is that if one changes the application data pointer while the program is stopped then it is possible to overwrite one frame of input/output data mode control words within the structured tx y:buffer with CODEC A-D data before re-sync is established. I have not thought of a practical way to prevent this but I do not think this limitation is significant for program development purposes as long as the user is aware of the situation and avoids causing misalignment of the pointer.

The source listings for the proposed 'confcod' and 'waitblk2' routines can be found below attached as text files. If you so wish please try out the code and provide feedback on this mailing list with the objective of establishing a consensus of opinion as to whether or not these routines should be implemented in the standard EVM BIOS distribution. Please also report any problems you may find in particular with applications I have not tested this code with. It would also be nice to hear
about additional applications that do work OK with these routines.

This is my first attempt at DSP56000 assembler programming thus I would not be surprised if there are more efficient ways to code these routines. Any tips on better techniques would be appreciated.

Many thanks in advance for any help!

73 de Tom, VE7TMA

Note: If all goes well with the trial of a new server my email address will be changing to tma@connected.bc.ca on Feb 01,1999.

```
;============================BIOS2 confcod start============================
;*****************************************************************************
;*     Open codec driver subroutine for EVM   *
; Usually called from Leonid 'confcod macro' via vector at p:0030
;  -data mode input/output control words have previously been loaded into the tx
; buffer by the 'cntrlcd macro' code which sets up a pre-loaded structured
buffer
;
;   r7 - address of the application tx/rx modulo buffer (x: A/D, y: D/A)
;   m7 - length of the modulo buffer
;   x0 - contains samping rate, HPF and MIC gain settings on entry
;
;*****************************************************************************
;
;      portc usage:
;       bit8: SSI TX (from DSP to Codec) ie. DSP TX
;       bit7: SSI RX (from Codec to DSP) ie. DSP RX
;       bit6: SSI SCLK - serial clock
;       bit5: SSI Frame Sync
;       bit4: CODEC reset (from DSP to Codec)
;       bit3: not used
;       bit2: CODEC data/control bar (  0=control, 1=data)
;       bit1: SCI TX
;       bit0: SCI RX
;
;  BTW, Motorola's choice of bit 2 for C/D, instead of say bit 3 (SC0),
;  prevents us from accessing the SCI SCLK signal.
;
;  PROGRAM OUTLINE:
;
;1 program fsync and sclk == output ie: MPU SSI master
;2 write pc2 = 0 (control mode)
;3 send 64 bit frame x times, with clb bit = 0, keep doing until data read back
;   for control words 1,2,3&4 is correct and clb=0
;4 send 64 bit frame 4 times, with clb bit = 1
;5 re-program fsync and sclk == input ie: CODEC now master
;6 write pc2 = 1 (data mode)
;7 do 194 frame  calibrate cycle
;9 do final frame lock
;8 receive/send data
;
;*****************************************************************************
opencd
        ori     #$03,mr                 ; disable interrupts
        movep   #$0003,x:m_pcc          ;  turn off ssi port (keep SCI TXD and RXD on)
        movep   #$4303,x:m_cra          ;  40MHz/16 = 2.5MHz SCLK, WL=16 bits, 4W/F
                                        ; WL=16 bits,4-16 bit words/frame ie 8-8bit Codec time slots

        movep   #$3B30,x:m_crb          ; RIE/TIE disabled, RE/TE enabled,  NTWK mode
                                        ;Continuous clock , SYNC mode, sync length 1 bit
                                        ; equal RX/TX sync length
                                        ;LSB 1st, Internal Clock, SC2 frame sync out pin
        movep   #$001c,x:m_pcddr        ; SCLK,SC0,SC1 as output
        movep   #0,x:m_pcd              ; RESET Codec ....
                                        ; D/C~   ..... 0 ==> Control mode
                                        ;----reset delay for codec ----

        ; CODEC requires 50 mS minimum reset pulse for calibration
        do      #500,_delay_loop        ;  approx 55 mS
        rep     #@cvi(xtal*110e-6/2)    ; 110 us delay - corrected Dec/98 VE7TMA
        nop                             ; to allow for various MPU clock rates
_delay_loop
        bset    #4,x:m_pcd              ; Codec RESET now complete

; send control blocks to the codec until we get valid responce from it
; add sampling rate and set CLB = 0
;
        move                #>%1110101101000111<<8,x1   ; load Codec control word_12
                                                        ; bit  mask for MICGAIN, HPF
                                                        ; Fs & CLB parameter bits
                                                        ;
        move                y:<cryconf,a1               ; load CODEC control word as
                                                        ; defined in Leonid equate
                                                        ;
        and     x1,a                                    ; mask out MICGAIN,
                                                        ; HPF & Fs bits as these
                                                        ; parameters are specified
                                                        ; in the opencd macro call
                                                        ; and are passed in x0
```

```
                                                ; CLB bit kept at 0 for control
                                                ; update completion flag
                                                ;
        or      x0,a                            ; add macro call CODEC
                                                ; setup specifications
        move    a1,y:<cryconf                   ; store new cntl_wd_12
        movep   #$01E3,x:m_pcc                  ; Toggle PC5-8 pins  from GPIO to SSI
                                                ; functions STD, SRD, SCK & SC2  for EVM
                                                ; SSI TX, SSI RX, CLK & SSI FS respectivly
                                                ; (also keeps SCI TXD/RXD enabled)
; ********************************************************************************
;VE7TMA version of Confcod configures the CS codec by :
;1) Saves the r7,m7,n7 buffer information which must have been previously been
;   set up by application
;2) Sets up new values for n7, m7
;3) locks onto frame sync
;4) points to tx "cryconf" buffer base + 1 adr and enables interrupts
;4) confirms config setup by comparing the TX/RX 1,2,3&4 time slot data
;5) loops until control bit CLB toggles to the low state confirming config
;   completion
;6) loops 4 more times with tx CLB=1
;7) turns master SSI control over to CODEC
;8) provides calibration cycle for CODEC
;9) returns with rise of  frame sync pulse
;10) disturbs A, B, X0
; ********************************************************************************
        move    r7,p:r7rem                      ; save the r7 buffer pointer
        move    m7,p:r7rem+1                    ; save the m7 buffer modulous
        move    n7,p:r7rem+2                    ; save the n7 buffer offset
        move    #4-1,m7                         ; set up new buffer modulous of 4 words
        move    #-1,n7                          ; not offset needed
_sync1  jclr    #m_tfs,x:m_sr,_sync1            ; wait for TX frame sync=1
        nop                                     ; let pipeline clear
_sync0  jset    #m_tfs,x:m_sr,_sync0            ; wait for end of frame pulse
        nop                                     ; let pipeline clear
_sync2  jclr    #m_tfs,x:m_sr,_sync2            ; wait for TX frame sync=1 for lock on!
        nop                                     ; let pipeline clear
        move    #cryconf+1,r7                   ; point to the 3&4 CS4215 conf word data
        nop                                     ; wait for r7 value update
        movep   y:(r7)+,x:m_tx                  ; loads SSI cntl wrd 3&4
        bset    #m_stie,x:m_crb                 ; enable the ssi tx int
        andi    #$FC,mr                         ; enable interrupts

confcod
        clr     A       #$f8bf00,X0             ; clear accumulator A, load CLB bit mask
        clr     B       x:<tmpblk+3,a1          ; clear accumulator B, ld RX 1_2 data
        and     X0,a1   y:<cryconf,b1           ; msk  1_2 rsrvd & CLB bits to 0, ld TX wds 1_2
        cmp     a,b                             ; check words 1&2
        jne     confcod                         ; try again if 1&2 words not correct
        clr     A                               ; 1&2 OK now check 3&4
        clr     B       x:<tmpblk+0,a1          ; clr B, ld the RX 3&4 data into A1
        move    y:<cryconf+1,b1                 ; load the TX words 3_4
        cmp     a,b                             ; check words 3&4
        jne     confcod                         ; try again if 3&4 words not correct
        jset    #2+16,x:tmpblk+3,confcod        ; data OK but Loop until CLB=0

; codec is configured, send final control block

        bset    #2+16,y:<cryconf                ; set CLB = 1
        do      #4,confok                       ; at least two frames after CLB high
_fend   jclr    #m_tfs,x:m_sr,_fend             ; wait for frame end pulse to rise
        nop                                     ;clear the pipeline
_fstart jset    #m_tfs,x:m_sr,_fstart           ;wait for frame sync pulse to fall
        nop                                     ;clear the pipeline
_fend1  jclr    #m_tfs,x:m_sr,_fend1            ;wait for frame end pulse to rise
        nop                                     ;clear the pipeline
;********************************************************************************
;  now CLB should be 1 -- re-program fsync and sclk direction (i/p)
; ********************************************************************************

confok  ori     #$03,mr                         ; disable interrupts
        movep   #$0003,x:m_pcc                  ; turn off ssi port (keep SCI on)
        move    p:r7rem,r7                      ; restore the r7 buffer pointer
        move    p:r7rem+1,m7                    ; restore the r7 buffer modulous
        move    p:r7rem+2,n7                    ; restore  the n7 buffer offset
        movep   #$7b00,x:m_crb                  ; enable tx int & make CS4215 master
        movep   #$14,x:m_pcd                    ; D/C~ = 1 ==> Data mode, keep reset high
        movep   #$01E3,x:m_pcc                  ; turn on ssi port (keep SCI on)
```

```
        do      #200,_cdready                   ; wait for calibration cycle which is needed
_sync1  jclr    #m_tfs,x:m_sr,_sync1            ; after each time there is a switch from
        nop                                     ; control to data mode. Minimum of
        andi    #$FC,mr                         ; 194 frames needed to complete cal
_sync0    jset  #m_tfs,x:m_sr,_sync0            ; IS (input select) bit must remain steady
        nop                                     ; which is ensured as tx buffer was loaded
_sync2  jclr    #m_tfs,x:m_sr,_sync2            ; previously with the data mode input/output
        nop                                     ; control words by the 'cntrlcd' macro code
_cdready        rts                             ; return on rise of frame sync pulse
;waitcal
r7rem   ds      3                               ; r7,n7,m7 SSI int bfr contents storage
; ********************************************************************************
;============================confcodend=========================================


;============================LEONID waitblk2 macro start======================
;*****************************************************************
; Frame locked version of waitblk by VE7TMA - version 0.1
; disturbs a,b,x0,x1,y0,y1 and possibly reg,r7 as necessary
;*****************************************************************
                                                ;reg is the data pntr used by the application
waitblk2 macro  reg,buflen,blklen               ;buflen specified as # of 4 word frames
                                                ;blklen is # of frames of data to wait for
        if @def(sim_debug)==0                   ;true if not sim_debug mode
        do      #blklen,_newblk
        jset    #m_tfs,x:m_sr,*                 ;wait for TX frame sync=0
        nop
        jclr    #m_tfs,x:m_sr,*                 ;wait for TX frame sync=1
        nop
_newblk ori     #$03,mr                         ; mask ints
        move    #>$fffffc,x0                    ; load bit 0,1 mask
_sync1  clr     a       #>$03,x1                ;load tx buffer offset
        clr     b       r7,a1                   ;prepare to modify r7 adr
        and     x0,a    reg,b1                  ;mask out bits 0&1, prep. to mod reg
        or      x1,a    #>4*blklen+3,y0         ;ld tx offset, ld SSI int/dsp pntr sep
        move    a1,r7                           ;update r7
        cmp     b,a     #>4*buflen,y1           ;check for bfr wrap, load bfr length
        jmi     _wrap                           ;if minus bfr wrapped with reg>r7
        sub     b,a                             ;obtain the SSI/dsp pntr sep
        cmp     y0,a                            ;compare to desired value
        jeq     _locked                         ;jump out if matched
        move    (reg)-                          ;mod reg
        jmp     _sync1                          ;try again
_wrap   add     y1,a                            ;add buffer length to r7 value
        sub     b,a                             ;obtain the SSI/dsp pntr sep
        cmp     y0,a                            ;compare to desired value
        jeq     _locked                         ;jump if correct separation
        move    (reg)-                          ;modify dsp pointer
        jmp     _sync1                          ;try again
_locked jset    #m_tfs,x:m_sr,*                 ;wait for TX frame sync=0
        nop
        andi    #$fc,mr                         ;unmask the ints
        else
        movep   x:$ffe0,x:(reg)
        endif
        endm
;*****************************************************************
;============================waitblk2 macro end===========================
```

[Attachment: confcod.txt; text/plain; 7,487 bytes]
[Attachment: waitblk2.txt; text/plain; 1,631 bytes]

## 27. [DSP:1276] EVM CBIOS2/LEONID ONCE Debugger stop/restart fix

From: forrerj@peak.org (Johan Forrer)
Date: Sun, 17 Jan 1999 08:44:08 -0800
To: dsp@tapr.org
Message-ID: <199901171645.IAA28815@peak.org>
Rendered body type: text/plain

Hi,

I seem to have a problem with reading/deciphering this posting as
there is no text display. Is it an appended file or something?

[DSP:1276] EVM CBIOS2/LEONID ONCE Debugger stop/restart fix

Seems to be something that I would like to know about.

It would be appreciated it if you could e-mail me directly as I am interested.

Thanks much.

Johan, KC7WW

## 28. Re-Post: EVM CBIOS2/LEONID ONCE Debug stop/restart fix

From: tmaldred@island.net (Thomas Alldread)
Date: Mon, 18 Jan 1999 21:52:44 GMT
To: dsp@tapr.org
Message-ID: <36a364d4.4141808@mail.island.net>
Rendered body type: text/plain

Re-Post:

I have decided to re-post this message as I received multiple reports that the first message could not be read by some. Apparently there may be a compatibility problem between my late version html compatible email software and many other email readers. I am sending this posting with my old email package and to reduce the message size I will post the assembler listings later if there are any requests.

>

Greetings All:

I have written new versions of the BIOS2 'confcod' subroutine and the LEONID 'waitblk' macro which if found suitable I propose be placed in general distribution. It has been suggested that I post the details here on the TAPR DSP mailing list to solicit feedback on the suitability of these revised EVM monitor components. As these routines are fundamental to the operation of the EVM they should be tested with a wide variety of applications prior to being placed into the standard distribution package.

As an exercise for learning the basic ins and outs of the EVM56002 environment I decided to spend some time studying the DSP56002 SSI communications protocol, the initialization of the the CS4215 CODEC and the synchronism of the associated interrupt/application data buffer pointers. In the process I took a look at some Motorola SSI interrupt service routines (ISRs) and compared them to the current distribution BIOS2 methods. I liked the BIOS2 short ISR approach from a speed and code efficiency viewpoint but I noticed it was lacking the cyclic SSI frame-sync-check / buffer-pointer-lock feature which the longer Motorola ISRs complete for each frame. The present BIOS2/LEONID routines only set up the proper timing relationship between the buffer pointers and frame sync during initialization. In contrast the Motorola ISR complete a frame sync/buffer pointer alignment check on an ongoing basis for each communications frame.

During the routine running of an application these two approaches perform equally well as long as the application signal processing code keeps up with the frame rate. However there is a significant performance difference when one is attempting to step through code with the ONCE port debugger. When one stops the MPU with the debugger in the middle of an application the CS4215 CODEC, which operates in the master mode after initialization, keeps on sending frames of data towards the 56002 SSI port. When the application is re-started it is unlikely that the r7 data pointer will be properly aligned with the current incoming data word and unless the application has the ability to re-establish synchronism it will most likely fail.

In practice I found efforts to restart an application with the ONCE port debugger, without doing a reset and initialization, failed for most attempts. By studying the buffers I concluded that on restart the r7 interrupt buffer pointer was in fact pointing randomly out of synchronism with the structured buffer data blocks previously set up by the LEONID 'cntrlcd macro'. The lack of ability to stop and restart applications midstream with the debugger is significant as it prevents one from studying the data acquisition and flow through the buffers.

I decided to write an alternate frame re-sync version of the LEONID 'waitblk macro' which I decided to name 'waitblk2'. It can be added to the LEONID code as an alternative to waitblk. Waitblk2 does the following:

a) It provides the buffer pointer alignment features of the existing macro.

b) It provides the frame lock feature of the Motorola ISRs.

c) It utilizes the existing efficient SSI short interrupt code.

Once implemented within the application in place of 'waitblk', 'waitblk2' allowed me to successfully stop and restart applications midstream with the ONCE port debugger. This now provides me with the capability for repetitively freezing and viewing the data flow through the buffers.

My study of the BIOS2 'confcod' subroutine used for the initialization of the CODEC did not build up my confidence that the CS4215 was being properly initialized. An examination of the rx buffer contents after stopping the Motorola initialization routine when CLB bit toggled to zero revealed the proper control words had been looped back by the CS4215. I found that I could not confirm the control word register contents using a similar approach with the BIOS2 'confcod' routine.

Although I believe that the existing 'confcod' routine must work as the EVM would not function properly otherwise I decided I would try and write a new initialization routine that would:

a) Include control word data checking as recommended within the CS4215 data sheet.

b) Use code that could be traced and confirmed with a CLB=0 debugger break point.

c) Utilize the existing SSI short interrupt code as opposed to the 'outblk' subroutine for the initialization I/O.

I have tested my 'confcod' and 'waitblk2' code with the FEEDTHRU, RTCOEFF and QRMQRN applications obtained from the Douglas Braun, N10WU web page and they seem to run OK. I have tested the new waitblk2 with the original confcod, the new confcod with the original waitblk and the two new routines together with all three applications. They worked OK for these combinations for me but there are no doubt different buffer structures in use that I have not tried out. There are no guarantees implied folks and you are welcome to implement them out at your own risk!

The only ONCE port debugger limitation I have noticed with 'waitblk2' is that if one changes the application data pointer while the program is stopped then it is possible to overwrite one frame of input/output data mode control words within the structured tx y:buffer with CODEC A-D data before re-sync is established. I have not thought of a practical way to prevent this but I do not think this limitation is significant for program development purposes as long as the user is aware of the situation and avoids causing misalignment of the pointer.

I will re-post the source listings for the proposed 'confcod' and 'waitblk2' routines if there are any requests from those that were not able to get them from the original posting.

If you so wish please try out the code and provide feedback on this mailing list with the objective of establishing a consensus of opinion as to whether or not these routines should be implemented in the standard EVM BIOS distribution. Please also report any problems you may find in particular with applications I have not tested this code with. It would also be nice to hear about additional applications that do work OK with these routines.

This is my first attempt at DSP56000 assembler programming thus I would not be surprised if there are more efficient ways to code these routines. Any tips on better techniques would be appreciated.

Many thanks in advance for any help!

73 de Tom, VE7TMA

Note: If all goes well with the trial of a new server my email address will be changing to tma@connected.bc.ca on Feb 01,1999.

Very Best Regards: Thomas M. Alldread
E-mail: tmaldred@mail.island.net

## 29. Re: EVM Radio Interface

From: Lawrence Stoskopf <stoskopf@tri.net>
Date: Thu, 21 Jan 1999 23:04:03 -0600
To: dsp@tapr.org
Message-ID: <36A806C3.F5812E37@tri.net>
Rendered body type: text/plain

The kit arrived yesterday.  I have the front board assembled and installed.  Tip of my temp
controlled iron burned off so have a delay, but....

Great instructions.  Looks good so far.  Great job guys.

N0UU

---

## 30. hello

From: 74387.702@compuserve.com
Date: Fri, 22 Jan 1999 23:37:51 -0200
To: run78@aol.com
Message-ID: <9901230137.AA40500@ita.cta.br>
Rendered body type: text/plain

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---

## 31. Re: [DSP:1279] Re: EVM Radio Interface

From: "Frederick M. Spinner" <fspinner@hotmail.com>
Date: Sat, 23 Jan 1999 16:51:06 GMT
To: dsp@tapr.org
Message-ID: <19990123165106.11997.qmail@hotmail.com>
Rendered body type: text/plain

>Date: Thu, 21 Jan 1999 23:08:52 -0600 (CST)
>Reply-To: dsp@tapr.org
>From: Lawrence Stoskopf <stoskopf@tri.net>
>To: dsp@tapr.org
>Subject: [DSP:1279] Re: EVM Radio Interface
>
>The kit arrived yesterday.  I have the front board assembled and
installed.  Tip of my temp
>controlled iron burned off so have a delay, but....
>
>Great instructions.  Looks good so far.  Great job guys.
>
>N0UU
>

I never knew you had an EVM!  I have had one for about two years, but I
haven't done anything with it since I moved to Iowa.

Good to actually know someone else that has one.  I built my own
interface based on N1OWU's instructions (roughly).. I don't know if I
want to get the fancy one from TAPR or not.  You will have to let me
know in greater detail what you think.

Thanks.

Fred W0FMS  (from the Farmnet)

_____
Get Your Private, Free Email at http://www.hotmail.com

---

## 32. Sorry

From: "Frederick M. Spinner" <fspinner@hotmail.com>
Date: Sat, 23 Jan 1999 16:53:25 GMT
To: dsp@tapr.org
Message-ID: <19990123165326.28349.qmail@hotmail.com>
Rendered body type: text/plain

Well, I just did it.

Sorry everyone saw that last one, but then again I'd take opinions on
how everyone else likes the TAPR front panel as well.

I wish that the reply-to on the list defaulted to the individual ans not
the list.  Oh well..

Fred W0FMS (ex-KA9VAW)

_____
Get Your Private, Free Email at http://www.hotmail.com

## 33. Re: [DSP:1279] Re: EVM Radio Interface

From: "Steven R. Bible" <n7hpr@tapr.org>
Date: Sat, 23 Jan 1999 11:55:48 -0500
To: dsp@tapr.org
Message-ID: <3.0.6.32.19990123115548.00a197f0@pop.gate.net>
Rendered body type: text/plain

At 11:08 PM 1/21/99 -0600, you wrote:
>The kit arrived yesterday.  I have the front board assembled and
installed.  Tip of my temp
>controlled iron burned off so have a delay, but....
>
>Great instructions.  Looks good so far.  Great job guys.

Thanks gotta hurt :-).

Thanks Lawrence.  Please provide feedback when you can.

We are also working on the Operations Manual.  Anyone interested in viewing
the draft and providing feedback, please let me know.

 - Steve
 (n7hpr@tapr.org)
 (n7hpr@amsat.org)

## 34. Re: [DSP:1283] Re: EVM Radio Interface

From: Michael Rudzki <kf8bex@oeonline.com>
Date: Sat, 23 Jan 1999 12:42:59 -0500
To: dsp@tapr.org
Message-ID: <2.2.32.19990123174259.009976cc@mail.oeonline.com>
Rendered body type: text/plain

I am one of the few that bought the EVM board at the TAPR group rate, but
hasn't
touched it since then. Now that I have my interface kit built and I am ready to
power the unit up for the first time (I know ... it's shameful!) does
anybody know of
a web site that has a procedure for starting off from the beginning? Or is
this a
subject to be covered in the Operations Manual?

Thanks and 73

Mike, N8MR

At 11:02 AM 1/23/99 -0600, you wrote:
>
>We are also working on the Operations Manual.  Anyone interested in viewing
>the draft and providing feedback, please let me know.
>
>
> - Steve
> (n7hpr@tapr.org)
> (n7hpr@amsat.org)
>
>

Mike
kf8bex@oeonline.com

## 35. Re: EVM interface

From: Lawrence Stoskopf <stoskopf@tri.net>
Date: Sat, 23 Jan 1999 11:57:11 -0600
To: dsp@tapr.org
Message-ID: <36AA0D77.C035295C@tri.net>
Rendered body type: text/plain

Finished the unit today, but won't fire up until a bit later.

Had two nuts and one screw left over.

I was a bit puzzled by the arbitrary placing of the power wires into the screw poser terminals until I realized that there was a bridge on the EVM board.  You might mention that in a later note.

There seems to be a space conflict with the ribbon connector to the front board and the single wire pin on the front board that goes to the pin 2 on the EVM header.  I warped it over a bit, but a wire rap or right angle connection would fit better.

Very nice job guys.

N0UU

## 36. Re: [DSP:1284] Re: EVM Radio Interface

From: "Mark L. Hammond" <hammond@camel.campbell.edu>
Date: Sat, 23 Jan 1999 13:15:07 -0500
To: dsp@tapr.org
Message-ID: <3.0.6.32.19990123131507.0085e900@camel.campbell.edu>
Rendered body type: text/plain

Sounds like an Operations Manual proofreader volunteer to me! ;)

Mark, KC4EBR

At 11:47 AM 1/23/99 -0600, you wrote:
>I am one of the few that bought the EVM board at the TAPR group rate, but
>hasn't
>touched it since then. Now that I have my interface kit built and I am
ready to
>power the unit up for the first time (I know ... it's shameful!) does
>anybody know of
>a web site that has a procedure for starting off from the beginning? Or is
>this a
>subject to be covered in the Operations Manual?
>
>Thanks and 73
>
>Mike, N8MR
>
>
>At 11:02 AM 1/23/99 -0600, you wrote:
>>
>>We are also working on the Operations Manual.  Anyone interested in viewing
>>the draft and providing feedback, please let me know.
>>
>>
>> - Steve
>> (n7hpr@tapr.org)
>> (n7hpr@amsat.org)
>>
>>
>
>Mike
>kf8bex@oeonline.com
>
>
>


Mark L. Hammond   [KC4EBR]

## 37. Re: [DSP:1284] Re: EVM Radio Interface

From: "Steven R. Bible" <srbible@gate.net>
Date: Sat, 23 Jan 1999 13:35:41 -0500
To: dsp@tapr.org
Message-ID: <3.0.6.32.19990123133541.00a3d650@pop.gate.net>
Rendered body type: text/plain

At 11:47 AM 1/23/99 -0600, you wrote:
>I am one of the few that bought the EVM board at the TAPR group rate, but
>hasn't
>touched it since then. Now that I have my interface kit built and I am
ready to
>power the unit up for the first time (I know ... it's shameful!) does
>anybody know of
>a web site that has a procedure for starting off from the beginning? Or is
>this a
>subject to be covered in the Operations Manual?
>
>Thanks and 73
>
>Mike, N8MR

Yes, the plan is for the Operations Manual to step you through the process of uploading and running programs on your EVM. As I mentioned, it is draft, but will get you going. In a separate email, let me send it to you as an attachment. Please comment heavily on the document and feel free to post questions to the list or to me.

- Steve
(n7hpr@tapr.org)
(n7hpr@amsat.org)

## 38. Re: [DSP:1285] Re: EVM interface

From: "Steven R. Bible" <srbible@gate.net>
Date: Sat, 23 Jan 1999 14:00:23 -0500
To: dsp@tapr.org
Message-ID: <3.0.6.32.19990123140023.0092f9c0@pop.gate.net>
Rendered body type: text/plain

At 12:00 PM 1/23/99 -0600, you wrote:
>
>Finished the unit today, but won't fire up until a bit later.
>
>Had two nuts and one screw left over.

They're yours to keep. I hope they are extras, not ment for assembly somewhere. Was the count extra from the parts list?

>I was a bit puzzled by the arbitrary placing of the power wires into the
screw
>poser terminals until I realized that there was a bridge on the EVM board.
You
>might mention that in a later note.

Okay, we can do that. I thought I did make mention. Yes, it is kind of confusing since many people have trained themselves to look for "+" and "-".

>There seems to be a space conflict with the ribbon connector to the front
board
>and the single wire pin on the front board that goes to the pin 2 on the EVM
>header. I warped it over a bit, but a wire rap or right angle connection
would
>fit better.

This was a difficult connection to make that would be easy for a variety of users. The difficulty was in finding a connector for only one pin on a header such as that. The straight pin is fine provided the IDC connector didn't get in the way. Of course this was discovered after the PCBs were made. There isn't a right anlge connector and wire wrap would be difficult for a majority of builders. If anyone finds a better connector, please let me know.

>Very nice job guys.

Thank you! Please note the design team is listed in the acknowledgements in the assembly manual. Soon the new TAPR web pages will be up and they

will be listed there as well.  It was a fun project.  Let us know how to
make it better.


 - Steve
 (n7hpr@tapr.org)
 (n7hpr@amsat.org)

## 39. RE: [DSP:1287] Re: EVM Radio Interface

From: "Clark, John" <john.clark@state.co.us>
Date: Sat, 23 Jan 1999 13:00:41 -0700
To: "'dsp@tapr.org'" <dsp@tapr.org>
Message-ID: <c=US%a=_%p=Colorado%l=EXCHANGE1-990123200041Z-43583@exchange1.state.co.us>
Rendered body type: text/plain

Steve, Draft Operations Manual for me too please.

John Clark
N0URE


|  -----Original Message-----
|  From: Steven R. Bible [mailto:srbible@gate.net]
|  Sent: Saturday, January 23, 1999 11:39 AM
|  To: dsp@tapr.org
|  Subject: [DSP:1287] Re: EVM Radio Interface
|
|
|  At 11:47 AM 1/23/99 -0600, you wrote:
|  >I am one of the few that bought the EVM board at the TAPR
|  group rate, but
|  >hasn't
|  >touched it since then. Now that I have my interface kit
|  built and I am
|  ready to
|  >power the unit up for the first time (I know ... it's
|  shameful!) does
|  >anybody know of
|  >a web site that has a procedure for starting off from the
|  beginning? Or is
|  >this a
|  >subject to be covered in the Operations Manual?
|  >
|  >Thanks and 73
|  >
|  >Mike, N8MR
|
|
|  Yes, the plan is for the Operations Manual to step you
|  through the process
|  of uploading and running programs on your EVM.  As I mentioned, it is
|  draft, but will get you going.  In a separate email, let me
|  send it to you
|  as an attachment.  Please comment heavily on the document
|  and feel free to
|  post questions to the list or to me.
|
|
|   - Steve
|   (n7hpr@tapr.org)
|   (n7hpr@amsat.org)
|
|

## 40. Re: [DSP:1287] Re: EVM Radio Interface

From: "Loren J. Thompson" <kb9ctj@cbcast.com>
Date: Sat, 23 Jan 1999 22:43:56 -0600
To: <dsp@tapr.org>
Message-ID: <004101be4754$2855f720$8a35dece@kb9ctj>
Rendered body type: text/plain

Hi
Can you also send me the draft?
Thanks
kb9ctj  also known as Loren

----- Original Message -----
From: Steven R. Bible <srbible@gate.net>
To: <dsp@tapr.org>

Sent: Saturday, January 23, 1999 12:38 PM
Subject: [DSP:1287] Re: EVM Radio Interface

>At 11:47 AM 1/23/99 -0600, you wrote:
>>I am one of the few that bought the EVM board at the TAPR group rate, but
>>hasn't
>>touched it since then. Now that I have my interface kit built and I am
>ready to
>>power the unit up for the first time (I know ... it's shameful!) does
>>anybody know of
>>a web site that has a procedure for starting off from the beginning? Or is
>>this a
>>subject to be covered in the Operations Manual?
>>
>>Thanks and 73
>>
>>Mike, N8MR
>
>
>Yes, the plan is for the Operations Manual to step you through the process
>of uploading and running programs on your EVM.  As I mentioned, it is
>draft, but will get you going.  In a separate email, let me send it to you
>as an attachment.  Please comment heavily on the document and feel free to
>post questions to the list or to me.
>
>
> - Steve
> (n7hpr@tapr.org)
> (n7hpr@amsat.org)

## 41. Re: [DSP:1290] Re: EVM Radio Interface

From: "Steven R. Bible" <srbible@gate.net>
Date: Sun, 24 Jan 1999 00:14:55 -0500
To: dsp@tapr.org
Message-ID: <3.0.6.32.19990124001455.00916460@pop.gate.net>
Rendered body type: text/plain

At 10:39 PM 1/23/99 -0600, you wrote:
>Hi
>Can you also send me the draft?
>Thanks
>kb9ctj  also known as Loren

Hello Loren, here you go.  Thanks.
[Attachment: OpManDraft_03.zip; application/zip; 178,847 bytes]

## 42. Re: [DSP:1290] Re: EVM Radio Interface

From: "Greg Jones, WD5IVD" <wd5ivd@tapr.org>
Date: Sat, 23 Jan 1999 23:08:26 -0600
To: dsp@tapr.org
Message-ID: <v04020a1eb2d05b130c4a@[207.8.125.50]>
Rendered body type: text/plain

Steve is posting it to the ftp area for access. Please send comments
directly back to Steve (n7hpr@tapr.org).

ftp://ftp.tapr.org/dsp/evmri

We will be interested in getting feedback.

Cheers - Greg

>Hi
>Can you also send me the draft?
>Thanks
>kb9ctj  also known as Loren
>
-----
Greg Jones, WD5IVD                Austin, Texas
wd5ivd@tapr.org      http://www.tapr.org/~wd5ivd

## 43. Re: [DSP:1291] Re: EVM Radio Interface

From: "Steven R. Bible" <srbible@gate.net>
Date: Sun, 24 Jan 1999 10:29:36 -0500
To: dsp@tapr.org
Message-ID: <3.0.6.32.19990124102936.00919540@pop.gate.net>

Rendered body type: text/plain

At 11:14 PM 1/23/99 -0600, you wrote:
>--=====================_917172895==_
>Content-Type: text/plain; charset="us-ascii"
>
>At 10:39 PM 1/23/99 -0600, you wrote:
>>Hi
>>Can you also send me the draft?
>>Thanks
>>kb9ctj  also known as Loren
>
>
>Hello Loren, here you go.  Thanks.


Oppps!  Dang, sorry about that.  That's what you get for working on this
late at night.  I did not mean to send this to the list.

Greg is right, take a look in

   ftp://ftp.tapr.org/dsp/evmri/

for the draft Ops Manual.  Please post your comments either to the list or
directly to me.

One of the comments I received was that the doc is more of a Getting
Started guide rather than an Operations Manual.  And he is right.  It might
be better to call it a Operations Guide.  Anyway, please comment on the
content, style, etc. and how it allows you to get your EVM-RI up and
running.  Also, anything else you would like to know about the EVM and EVM-RI.

Thanks,

 - Steve
 (n7hpr@tapr.org)
 (n7hpr@amsat.org)

## 44. Re: [DSP:1293] Re: EVM Radio Interface

From: Michael Rudzki <kf8bex@oeonline.com>
Date: Sun, 24 Jan 1999 14:02:39 -0500
To: dsp@tapr.org
Message-ID: <2.2.32.19990124190239.0099c5d0@mail.oeonline.com>
Rendered body type: text/plain

Hi Greg. I just read over the manual and did the loop-back test. This is
the only thing I can do for now, since I don't have any cables made for
the radio, yet.

Some people may think that the manual is too basic, but I'm one of those
who is completely unfamiliar with the DSP-loading-and-operating process.
My first suggestion would be to outline the process for getting the EVM
running; from an unloaded or un-initialized module to something that one
can load programs into. For instance:



        In order to get your EVM running the following steps are required:

        1.) Verify that the hardware is operational through the software
included with your EVM.

        2.) Download and unpack the programs containing the BIOS and assembler.

        3.) Load the EVM with the proper BIOS (this must be done before any
of the modems, i.e.,
        1200 baud AFSK, 9600 baud G3RUH, audio filters, can be installed).


Then, a short explanation of what the BIOS does, whether or not it has to be
reloaded
with every modem change and a process for future modem changes can be included.
You can suggest the chapter in the ARRL Handbook for an explanation of DSP,
or if
there are any web pages that contain this information, they can be included.
I've
been following this SIG almost ever since it started (I have most or all of
the 1290+
messages still on my hard drive). In the beginning, one guy had a beginners
guide to

this process. I tried that URL a few days ago and apparently, it is gone. I deleted the
URL from my bookmarks, otherwise I would have mentioned it here.

I've included a link to the TAPR EVM56K web page on "Links" menu of the Southeast
Michigan Area AMSAT web page:

http://oeonline.com/~kf8bex/amsat/index.html

I think this is a great project for learning DSP and for exchanging and experimenting
digital modes for amateur radio.

Thanks for the manual, Steve. I'll keep you posted on my progress.

73

Mike, N8MR

>Oppps!  Dang, sorry about that.  That's what you get for working on this
>late at night.  I did not mean to send this to the list.
>
>Greg is right, take a look in
>
>   ftp://ftp.tapr.org/dsp/evmri/
>
>for the draft Ops Manual.  Please post your comments either to the list or
>directly to me.
>
>One of the comments I received was that the doc is more of a Getting
>Started guide rather than an Operations Manual.  And he is right.  It might
>be better to call it a Operations Guide.  Anyway, please comment on the
>content, style, etc. and how it allows you to get your EVM-RI up and
>running.  Also, anything else you would like to know about the EVM and EVM-RI.
>
>Thanks,
>
> - Steve
> (n7hpr@tapr.org)
> (n7hpr@amsat.org)
>
>

Mike
kf8bex@oeonline.com

## 45. 56002 beginner

From: w4sm@cstone.net (Stacey Mills)
Date: Sun, 24 Jan 1999 19:55:06 -0500
To: dsp@tapr.org
Message-ID: <3.0.2.32.19990124195506.0073ff98@cstone.net>
Rendered body type: text/plain

Having just purchased a Motorola DSP56002EVM board and TAPR's interface kit, I'm beginning to explore this world.  The info. on the ftp site has been helpful if somewhat spotty.

I've assembled and loaded "bios2" and "fsk1200" successfully and the run the kiss terminal program "PMP".  Loopback testing works fine and the setup can "hear" transmitted packets fine from radio to radio.  However, I can't get the PTT light to activate and the PTT connection does not go to ground as it should. The packets are being transmitted, but the PTT is not being activated.  Any thoughts??

Thanks.

--

 Stacey E. Mills, W4SM    WWW:         http://www.cstone.net/~w4sm/ham1.html
  Charlottesville, VA     PGP key:     http://www.cstone.net/~w4sm/key.asc


## 46. Re: [DSP:1291] Re: EVM Radio Interface

From: TBaggett@AustinTX.net (Tim Baggett)
Date: Sun, 24 Jan 1999 19:42:21 -0600
To: <dsp@tapr.org>
Message-ID: <006201be4803$f4d8c020$91b115d0@computer>
Rendered body type: text/plain

Steve,

The EVMRI manual looks great! I have some comments to add, and I'll also post to the list, as everyone has the draft.

* "In 1995, TAPR was approached by Motorola and made a purchase of 200 EVMs. They sold out in a matter of weeks at a price less than retail.  "

FWIW, this was actually 1996. I hadn't started working for Motorola until May 1996 ;-)

* "The DSP56002EVM Evaluation Module is fully assembled and tested.  It comes with documentation for the DSP56002 processor, CS4215 codec, and development software.  You will need to supply a 7-9 volt AC or DC power at 700 mA.  The Radio Shack 7.5VAC adapter (273-1655) is a good choice for a power adapter.  "

Might add, "The DSP56002EVM contains an on board full wave bride rectifier, and therefore polarity is not a concern when connecting a DC power supply." I don't know how many folks I've answered this question to. I think it is a great design, but it really throws people off!

* "The software supplied with the EVM is Motorola□s DSP5600x cross assembler, Domain Technologies□ debugger, installation instructions, user notes, demo programs, and self-test programs."

As of Vr 2.8 of the 56002EVM distribution disks, the 56K linker was also included. If your EVM ships with only one disk, then it contains the DOS debugger (only!), assembler and all demo programs on that one disk, but no linker. Vr 2.8 of the distribution software is shipped with EVMs that come with two disks - one for the Windows Domain Debugger, and one with all the Motorola stuff on it. Vr 2.8 of the distribution software, which also includes the DOS version of the Domain Debugger can be downloaded at: http://www.mot.com/SPS/DSP/software/other.html#56000 as evm28.exe. Include what you wish to in the documentation.....

* "When you □Press any key to continue
□ the Domain Technologies debugger
will start.  There will be an error □file not found□ but it does not seem to affect the program in any way.  If you connect headphones to the HDPHNE jack J16, you will hear a series of tones."

This has the potential of being dangerous. I can't recall how loud the test tones are on the 56002 when running the evmtest program. On the 5630x EVM's the test program is pre-programmed in the onboard flash. Motorola received *MANY* emails from surprised and near deafened individuals who had the headphones plugged in when the turned on the EVM. There is now a big BOLD warning in the 5630xEVM User's Manuals. If you have checked the volume settings on the 56002EVM with the headphones, and it is okay, great! If not, it may be worth checking into!

In addition, I never really paid much attention to the analog tests. Seems like we mainly used them as a reference. Of course, if there is a major problem, then the evmtest program will certianly tell you about it, so it is useful!

* "For the EVM to be really useful, you must load the Flash EPROM with your choice of default program.  Use the FLSHBOOT.ASM program to program the Flash EPROM."

I think we should suggest the user use the flshboot.asm program that is included in vr2.8 or later of the Motorola distribution. There is a bug in the early ones such that it can't program all the flash. Perhaps not may people will notice it, but Johan did, and in fact, fixed it. I obtained permission from Johan to incorporate his fix into the Motorola flshboot.asm that is in Vr2.8.

* "Wait for the program to finish (- what is the indication? EVM> prompt?)"

in the lower right hand corner of the debugger there is an indicator as to
the state of the EVM. Also the red LED on the EVM is lit when in debug mode,
and out when running. Also, I think you have to load a few registers with
the beginning/ending addresses of the block of P memory you want to program
before running flshboot.asm - need to check the flshboot.asm comments for
runtime directions. (Sorry I'm being a bit wishy-washy, but this is all from
memory at the moment....)

* "apt.asm A very nice WESAT APT demodulator w/ synchronous detection,
designed by me. RECOMMENDED."

Just curious, who is "me"? Are you writing DSP code Steve? COOL! Congrats!

* "ioequlc.asm Motorola-supplied header file, with I/O port definitions for
56000-family processors. I added a couple of updates for the 56002.
IMPORTANT.

intequlc.asm Motorola-supplied header file.  Has definitions of interrupt
vectors for 56000-family processors. IMPORTANT."

how about, "Lower case versions of the motorola supplies header files...."
Motorola's `official` files are ioequ.asm and intequ.asm and have lots of
upper case labels in them. Someone, perhaps Alef Null, preferred using all
lower case. 6 of one, half dozen of another.... Might be good for the users
to know how these files which are needed for the Alef Null programs relate
to the files they can download from Motorola...

I'm sure many others will stand behind me in saying thanks for the hard work
you and others have put into getting the EVMRI out to the EVM community!

73,
Tim,
AA5DF

## 47. Re: [DSP:1295] 56002 beginner

From: "Steven R. Bible" <srbible@gate.net>
Date: Sun, 24 Jan 1999 20:41:21 -0500
To: dsp@tapr.org
Message-ID: <3.0.6.32.19990124204121.0095b5d0@pop.gate.net>
Rendered body type: text/plain

At 06:57 PM 1/24/99 -0600, you wrote:
>
>Having just purchased a Motorola DSP56002EVM board and TAPR's interface
>kit, I'm beginning to explore this world.  The info. on the ftp site has
>been helpful if somewhat spotty.
>
>I've assembled and loaded "bios2" and "fsk1200" successfully and the run
>the kiss terminal program "PMP".  Loopback testing works fine and the setup
>can "hear" transmitted packets fine from radio to radio.  However, I can't
>get the PTT light to activate and the PTT connection does not go to ground
>as it should. The packets are being transmitted, but the PTT is not being
>activated.  Any thoughts??

Stacy,

Sorry that the Operating Guide is spotty.  It is still a work in progress.
If you have suggestions on how you would like for it to read, please email
them to me.

FSK1200.ASM by default uses the Left channel of the EVM.  And the Left
channel is Radio 1 on the EVM-RI (the Right channel is Radio 2).
FSK1200.ASM asserts Port-B bit B0 (pin 14 on J7 on the EVM).  J7 has the
16-pin ribbon cable on it that goes to the EVM-RI front panel.  There B0
asserts transistor Q2.  If you follow all this on the EVM-RI schematics
(available at

    http://www.tapr.org/taprf/html/Fevmri.html

), you'll see that the signal goes to P3 pin 2, through the 10-conductor
ribbon cable to the rear PCB P7 pin 2.  Then finally to J1 pin 3 (the 8-pin
DIN), which is the PTT signal for Radio 1.

Hopefully this guided tour will help you trace the signal and find the
problem (if any).  Let me know how it goes.


 - Steve
 (n7hpr@tapr.org)
 (n7hpr@amsat.org)

## 48. DVM56002 cabling

From: w4sm@cstone.net (Stacey Mills)
Date: Sun, 24 Jan 1999 22:30:00 -0500
To: dsp@tapr.org
Message-ID: <3.0.2.32.19990124223000.0073283c@cstone.net>
Rendered body type: text/plain

Thanks to Steve Bible for sending me the necessary schematic information on
the DVM56002 interface.  With his notes, my problem with the PTT not
activating was quickly traced to a faulty ribbon connector which had not
been tightly crimped and had several open leads.  A quick turn in a small
vise and all the connectors are now "connected".  The FSK1200 baud modem,
complete with functional PTT, works fine!!  Now on to learning how to use
the "flash" routine, FSK9600, etc.... fun!!!

I thought I'd mention the problem here, in case others encounter a faulty
ribbon.

Thanks again!



--
 _____________________________________________________________________
  Stacey E. Mills, W4SM    WWW:         http://www.cstone.net/~w4sm/ham1.html
   Charlottesville, VA     PGP key:     http://www.cstone.net/~w4sm/key.asc
 _____________________________________________________________________

## 49. Re: [DSP:1296] Re: EVM Radio Interface

From: Michael Rudzki <kf8bex@oeonline.com>
Date: Sun, 24 Jan 1999 22:53:32 -0500
To: dsp@tapr.org
Message-ID: <2.2.32.19990125035332.00731448@mail.oeonline.com>
Rendered body type: text/plain

At 07:29 PM 1/24/99 -0600, you wrote:
>Steve,
>
>The EVMRI manual looks great! I have some comments to add, and I'll also
>post to the list, as everyone has the draft.
>

>
>
>I'm sure many others will stand behind me in saying thanks for the hard work
>you and others have put into getting the EVMRI out to the EVM community!
>
>
>73,
>Tim,
>AA5DF
>


Yes, thank you one and all for the effort you guys put into this unit, from the
programmers to the kitters. I am looking forward to using my EVM (once I get
the cables made). The EVM interface is wonderfully put together.

73

Mike, N8MR


Mike
kf8bex@oeonline.com

## 50. [dsp] Please Ignore - T.E.S.T.

From: "Greg Jones, WD5IVD" <wd5ivd@tapr.org>
Date: Mon, 25 Jan 1999 00:59:11 -0600

To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-465-1999.01.25-00.59.30--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

We are working on getting a new mail archives/search engine installed.
Trying to make sure that mail is routed to the correct files.

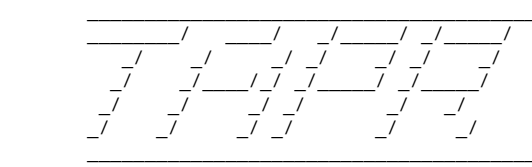
Cheers - Greg
-----
Greg Jones, WD5IVD                Austin, Texas
wd5ivd@tapr.org      http://www.tapr.org/~wd5ivd

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 51. Welcome to TAPR DSP SIG

From: Lyris <lyris@lists.tapr.org>
Date: Sun, 24 Jan 1999 23:17:14 -0600
To: lyris.dsp@tapr.org
Message-ID: <LYR3532-424-1999.01.24-23.17.14--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

**********************************************************************
*                PLEASE SAVE THIS WELCOME MESSAGE!                   *
**********************************************************************



Welcome to TAPR DSP Special Interest Group.

Objectives for the DSP List
---------------------------
The purpose of the DS SIG is to serve as a forum for those involved in
experimenting, and developing DSP based applications and techniques.

Getting involved
----------------
We require talents representing a wide range of topics such as mathematics
(coding theory, signals and transforms), software engineering (algorithm
development, real-time OS, low-level I/O, host OS), electrical engineering
(analog, digital and RF), digital signal processing (theoretical, hardware
and software), etc.  However, there also is a similar need for technical
writers, beta testers, and project management.

Chairperson: Tim Baggett, AA5DF (aa5df@tapr.org)

Mechanics of the List
---------------------
The DSP mailing list charter is to provide a forum for the exchange of
information about DSP Issues.

TAPR is committed to the success of the various SIG lists.  All lists have
tremendous potential, but TAPR does not want that potential to be lost.

The criteria for appropriate publication are simple: messages should 1)
advance the discussion at hand, 2) not perpetuate one of our many Holy
Wars (i.e., my OS is bigger than your OS, or "your protocol stinks
because"), and 3) avoid personal attacks (FLAMES).

If a messages from individuals over time continue to abuse these
standards, they will be removed from the list.  If problems are frequent
to the point of problems, the mail list can become moderated at the
discretion of the SIG chairperson.

Our hope is that SIG members will bear in mind the goals of the SIGs when
posting messages, and that very few messages will be considered outside of
these standards.  If you feel that you must FLAME someone, do it via
personal mail or use one of the many other places available to vent

spleen. The forums are setup for positive, productive, cooperative
discussions.

---

To post messages to the dsp list, send email to:

        dsp@lists.tapr.org

To unsubscribe from this mailing list, surf to:

   http://www.tapr.org/cgi-bin/lyris.pl?enter=dsp

or send email to:

   lyris@lists.tapr.org

with the following line in the body of the message:

   unsub dsp

The host of this list is:

   Tucson Amateur Packet Radio (TAPR)
   tapr@tapr.org
   http://www.tapr.org
   8987-309 E Tanque Verde Rd. #337, Tucson, AZ 85749-9399,
   phone 940-383-0000, fax 940-566-2544

---

Just so that you have all the commands neatly contained in one place,
here is just about everything you will need to know. Note that this list
is running on a Lyris server.  Please be aware that the commands might be
different from those that you are used to using on other list servers.
(For more information on Lyris, see <http://www.lyris.com/>.)

1. First of all, almost everything that you might need to do on the
   server is most easily and effectively performed via Lyris's Web
   interface at <http://www.tapr.org/cgi-bin/lyris.pl>.

2. In case you do not have Web access, here are some key commands; in all
   cases, the default server address is: <lyris@lists.tapr.org>. Other
   addresses are shown where appropriate. Note that commands may be placed
   in either the subject line or in the body of the message:

                SUBSCRIBING:
                  subscribe dsp your_name
                  join dsp your_name
                  alternate address: join-dsp@lists.tapr.org

                UNSUBSCRIBING:
                  unsubscribe dsp
                  leave dsp
                  alternate address: leave-dsp@lists.tapr.org

                SETTING MEMBERSHIP TO DIGEST MODE:
                  set dsp digest

                SETTING MEMBERSHIP TO INDEX MODE:
                  set dsp index

                SETTING MEMBERSHIP TO DISCUSSION MODE:
                  set dsp mail

                TEMPORARILY SUSPENDING MAIL FROM THE LIST:
                  set dsp nomail

                RESUMING MAIL FROM THE LIST:
          (command depends on your preferred mode)
                  set dsp mail

```
  set dsp digest
  set dsp index

ACKNOWLEDGMENT:
  set dsp ack
    (sends you a confirmation message when your posts are sent)
  set dsp noack
    (no confirmation message when posts are distributed)

RECEIVING COPIES OF YOUR OWN POSTS:
  set dsp repro
    (receive copies of your own posts)
  set dsp norepro
    (do not receive copies of your own posts)

SETTING YOUR PASSWORD:
  set dsp pw=mypassword
    (where "mypassword" is the password you wish to set)

DETERMINING YOUR MEMBERSHIP SETTINGS:
  query dsp

RETRIEVING THE CURRENT VERSION OF THIS DOCUMENT:
  get dsp hello

MORE INFORMATION ON LYRIS'S COMMANDS:
  help

POSTING TO THE LIST:
  You must be a subscriber to post messages. Sending
  mail to this address will distribute it to all the members of the
  mailing list:  dsp@lists.tapr.org
```

3. CHANGING YOUR SETTINGS/ADDRESS VIA THE WEB INTERFACE: To do this, go to <http://www.tapr.org/cgi-bin/lyris.pl> and click the link in the "Change Your Settings" section. You'll need to enter your e-mail address and password (if you chose one) to continue.

   (If you've forgotten your password, you can type in your e-mail address in the field at the bottom of the page and click "Get password" to request Lyris to e-mail your password to you.)

   At the following page, you can read messages, post a message, adjust your settings, or unsubscribe. From the settings page, you can change your status (MAIL, DIGEST, INDEX, or NOMAIL), choose whether or not to see your own messages, and choose whether or not you want to receive a separate acknowledgement via e-mail when one of your messages is posted to the list, You can also change your e-mail address if you need to. When you change your settings, make sure you click the "Save" button at the bottom of the page.

4. ARCHIVES: The dsp SIG archives are available on the Web, at the following URL: <http://www.tapr.org/sigf.html>

5. BOUNCED MAIL: One of the key features of Lyris is its ability to handle mail bounces transparently to the list owner; as such, bounced mail will be handled primarily by the Lyris list server.

6. POSTS/REPLIES FROM DIGEST USERS: You *must* change the Subject: line when replying to a digest; all posts with "dsp DIGEST" in the Subject: line will be rejected by the server (you will receive a "rejection letter" when this happens).

## 52. [dsp] New EVM version 1.22

From: Eduardo Jacob <jtpjatae@bicc00.bi.ehu.es>
Date: Mon, 25 Jan 1999 20:55:30 +0100
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-725-1999.01.25-13.56.02--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

There is a new version of Motorola EVM 56002 PSK31 for Windows available with more help, tunnig aids, a waterfall indicator and a receive overload indicator. By Peter G3PLX

As usual:

available at ftp://det.bi.ehu.es/pub/ham/psk31/p31evw122.zip

The PSK31 Homepage

http://aintel.bi.ehu.es/psk31.html

Regards EA2BAJ

---

Eduardo EA2BAJ
DSP and HAM:  http://det.bi.ehu.es/~jtpjatae/ham.html
VHF PACKET: EA2BAJ @ EA2URV
PGP Key avlb: Send email w/subject: PGPKEY
fingerprint : D8 FA 54 49 F7 40 BA AA 09 1A 73 40 A4 26 ED BD

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 53. [dsp] Re: [DSP:1296] Re: EVM Radio Interface

From: Tomi Manninen <tomannin@trshp.ntc.nokia.com>
Date: Tue, 26 Jan 1999 15:44:48 +0200 (EET)
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-1197-1999.01.26-07.45.11--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Sun, 24 Jan 1999, Tim Baggett wrote:

> * "The DSP56002EVM Evaluation Module is fully assembled and tested.  It
> comes with documentation for the DSP56002 processor, CS4215 codec, and
> development software.  You will need to supply a 7-9 volt AC or DC power at
> 700 mA.  The Radio Shack 7.5VAC adapter (273-1655) is a good choice for a
> power adapter.  "
>
> Might add, "The DSP56002EVM contains an on board full wave bride rectifier,
> and therefore polarity is not a concern when connecting a DC power supply."
> I don't know how many folks I've answered this question to. I think it is a
> great design, but it really throws people off!

I don't have a TAPR EVMRI and I haven't read the manual but this reminded
me of something that might be worth mentioning in the manual if it isn't
already. Namely that it _is_ possible to run the EVM from a 12V power
supply but that prolonged use without rather heavy extra cooling of the
on-board 7805 regulator is not recommended. The regulator will heat
significantly and probably go to thermal shutdown (I haven't tested). In
my unit I removed the regulator from the PCB and bolted it to the
enclosure. The enclosure gets pretty warm, but everything seems to work ok
(my EVM has now been in 24/7 use as a packet modem for several months).

My experience has been that there are several occations where the need for
a separate 7-9V power source when everything else uses 12V is an issue.

--
---Tomi Manninen   /   Tomi.Manninen@hut.fi   /   OH2BNS @ OH2RBI.FIN.EU---

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 54. [dsp] Re: [DSP:1296] Re: EVM Radio Interface

From: Douglas Braun <doug.braun@intel.com>
Date: Tue, 26 Jan 1999 10:43:59 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-1250-1999.01.26-10.45.28--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 03:44 PM 1/26/99 +0200, you wrote:
>On Sun, 24 Jan 1999, Tim Baggett wrote:

>I don't have a TAPR EVMRI and I haven't read the manual but this reminded
>me of something that might be worth mentioning in the manual if it isn't
>already. Namely that it _is_ possible to run the EVM from a 12V power
>supply but that prolonged use without rather heavy extra cooling of the
>on-board 7805 regulator is not recommended. The regulator will heat
>significantly and probably go to thermal shutdown (I haven't tested). In

>my unit I removed the regulator from the PCB and bolted it to the
>enclosure. The enclosure gets pretty warm, but everything seems to work ok
>(my EVM has now been in 24/7 use as a packet modem for several months).
>
>My experience has been that there are several occations where the need for
>a separate 7-9V power source when everything else uses 12V is an issue.

If you are OK with a soldering iron, I think moving the voltage regulator to the case is
a wise idea.  Probably you could add a new one, and leave the old one in place.
(Can a unpowered 7805 handle an external 5V source on its output pin?)

Myself, I cheated and stuck a 25 ohm 2-watt resistor between the 12V supply and
the EVM board input.

Doug Braun
N1OWU

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 55. [dsp] Re: EVM Radio Interface

From: Tomi Manninen <tomannin@trshp.ntc.nokia.com>
Date: Tue, 26 Jan 1999 18:57:01 +0200 (EET)
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-1251-1999.01.26-10.57.15--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Tue, 26 Jan 1999, Douglas Braun wrote:

> If you are OK with a soldering iron, I think moving the voltage
> regulator to the case is a wise idea.  Probably you could add a new one,
> and leave the old one in place.  (Can a unpowered 7805 handle an
> external 5V source on its output pin?)

Most probably not.

> Myself, I cheated and stuck a 25 ohm 2-watt resistor between the 12V
> supply and the EVM board input.

That's one way of course. Or if polarity is not a problem, a 7808 and two
1u tantalum caps bolted to the case is another.

--
---Tomi Manninen   /   Tomi.Manninen@hut.fi   /   OH2BNS @ OH2RBI.FIN.EU---

---
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To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 56. [dsp] EVM

From: Jeff Davis <jeff@jehosophat.com>
Date: Tue, 26 Jan 1999 16:57:14 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-1320-1999.01.26-15.55.55--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I received the EVM kit today. The kit looks great.

Time to melt a little solder!

Vy 73 de N9AVG
--
Jeff Davis

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 57. [dsp] ISA BUS EVM board ?

From: "Marcelo Puhl" <mark@plug-in.com.br>
Date: Wed, 27 Jan 1999 13:07:25 -2
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-1549-1999.01.27-09.07.55--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I recall seeing a PC EVM version as an ISA BUS board.

What will be the advantages of that board ?

---
Marcelo Puhl
mark@plug-in.com.br

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 58. [dsp] Re: ISA BUS EVM board ?

From: Johan Forrer <forrerj@peak.org>
Date: Wed, 27 Jan 1999 08:38:32 -0800 (PST)
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-1586-1999.01.27-10.38.49--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Marcelo,

I have used the Domain Tech 56002 ISA PC-plugin card for some
three years or so. It works just fine and have used it for
a lot of consulting projects. Main advantages:

1) Very fast download (via the host port interface).
2) Being able to write applications that work through
   the host port is very nice.
3) Almost all the tools that we use for the EVM also
   works on that card. Not exactly identical, but with a
    few mods at least.

The card is a bit more expensive than an EVM, but has more
SRAM. Unless you have a real need for this kind of hardware,
I would not really think it is that special.

Johan, KC7WW


On Wed, 27 Jan 1999, Marcelo Puhl wrote:

>
> I recall seeing a PC EVM version as an ISA BUS board.
>
> What will be the advantages of that board ?
>
> ---
> Marcelo Puhl
> mark@plug-in.com.br
>
> ---
> You are currently subscribed to dsp as: FORRERJ@PEAK.ORG
> To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
>
>


---
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To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 59. [dsp] New PSK31 for Windows on SB - 1.04

From: Eduardo Jacob <jtpjatae@bicc00.bi.ehu.es>
Date: Wed, 27 Jan 1999 17:39:41 +0100
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-1590-1999.01.27-10.40.11--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Directly from Peter's message...

"The main things to tell the people are that it has a soundcard input
overload indicator in the waterfall, and it sets the sample-rate better and
can handle really way-off-frequency soundcards now"

        As usual:

        available at ftp://det.bi.ehu.es/pub/ham/psk31/p31sbw104.zip

        The PSK31 Homepage

http://aintel.bi.ehu.es/psk31.html

Regards EA2BAJ

---

Eduardo EA2BAJ
DSP and HAM:  http://det.bi.ehu.es/~jtpjatae/ham.html
VHF PACKET: EA2BAJ @ EA2URV
PGP Key avlb: Send email w/subject: PGPKEY
fingerprint : D8 FA 54 49 F7 40 BA AA 09 1A 73 40 A4 26 ED BD

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 60. [dsp] Re: EVM Radio Interface

From: Donald E Haselwood <dhaselwood@ij.net>
Date: Wed, 27 Jan 1999 04:57:27 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-1656-1999.01.27-15.21.09--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The EVM-RI went together easily and looks great.  Nice job with the kit.

I'm missing the sticker for the DIN-8 connector, however. Possibly it was
buried in the packing materials (and they are long-gone).  Is the diagram
on www.tapr.org (i.e. print it out and glue it on)?

Now to get get it going with the HF rig.

73's
Don, W4DH

---
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To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 61. [dsp] this

From: aa0on18485@aol.com
Date: Thu, 28 Jan 1999 02:33:06
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-1803-1999.01.28-05.05.21--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

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1949 & World Court Decision, The Hague,
Netherlands, January 21, 1958)

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## 62. [dsp] 1200b Packet with Soundcard under win95/98

From: "(SV2AGW)George Rossopoylos" <sv2agw@the.forthnet.gr>
Date: Thu, 28 Jan 1999 14:24:46 +0200
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-1810-1999.01.28-06.14.41--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi

i have just upload  new version of AGW Packet Engie that can use any
soundcard(hope!!) as a 1200 modem.
It took me 8 months, since I had to study DSP programming, but the results
are greate.
I use the Multimedia API and the overhead is really very low. Although i
havent tested it,yet, should work even on slow 486s without affecting the
overall performance.
You need a soundcard with 32 bit drivers. But the program first checks if
the soundcard driver is capable.
I will try later with a 9600b driver.
The program and more is at http://www.forthnet.gr/sv2agw/

73
(SV2AGW)George Rossopoylos
sv2agw@the.forthnet.gr
http://www.forthnet.gr/sv2agw

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

# February 1999

Original source file: dsp.9902
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/dspsig/mail_archive/dsp.9902

## 1. [dsp] New version 1.05 of PSK31 fow SB

From: Eduardo Jacob <edu@kender.es>
Date: Sat, 06 Feb 1999 21:06:55 -0100
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-3849-1999.02.06-14.07.39--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>From Peter Martinez

Version 1.05 of PSK31SBW is now available from

ftp://det.bi.ehu.es/pub/ham/psk31/p31sbw105.zip

The changes to this version are:

** Windows NT is now supported, thanks to the work and patience of Dave AA6YQ.

** The centre-frequency bug in V1.04 is now fixed so you can set the
program to
start with transmit and receive frequencies to match your favourite CW filter.

** If you use "Large Fonts" in your Windows, the text in the main window and
the positioning of the tuning displays are now correct.

** You can now send a file and continue typing into the keyboard without
corrupting the file-send, and pre-type the F5 or F6 keys to end the
transmission afterwards.

>>>

As usual newcomers can find information about PSK31 at

http://aintel.bi.ehu.es/psk31.html

Eduardo

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 2. [dsp] DL32 source.

From: Douglas Braun <doug.braun@intel.com>
Date: Wed, 10 Feb 1999 11:33:58 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-4459-1999.02.10-10.53.57--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello,

I got a request for the source code for the Win32 version of dl.exe.
So I stuck it on my Web site: www.erols.com/dougbert.
(It also has all code needed for the DOS and Linux versions,
but I have not actually built those versions from this code base.)

Doug Braun
N1OWU

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 3. [dsp] PC-SIM & PC-DSP

From: Mark Dell <greatmachine@yahoo.com>
Date: Thu, 11 Feb 1999 05:19:10 -0800 (PST)
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-4623-1999.02.11-07.19.46--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello,

Is anyone familiar with the PC-SIM Standard Edition DSP software. Does
any have the software package? What did they think of it?

_____
DO YOU YAHOO!?
Get your free @yahoo.com address at http://mail.yahoo.com

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 4. [dsp] Re: PC-SIM & PC-DSP

From: Charles Brain <chbrain@dircon.co.uk>
Date: Thu, 11 Feb 1999 13:46:38 +0000
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-4631-1999.02.11-07.51.55--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Mark Dell wrote:
>
> Hello,
>
> Is anyone familiar with the PC-SIM Standard Edition DSP software. Does
> any have the software package? What did they think of it?
>

Hello Mark,

I use PC-DSP for filter design and analysis and for processing sound files.

I have also used PC-SIM. On a rating of 0 - 10 I would place it at about 5.

It is easy to use but not as flexible as packages such as MATLAB.

It was a good start, but the company that make it do not seem to be doing anymore
development work on it, which is a shame.

- Charles G4GUO

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 5. [dsp] DSP Simulation packages

From: "Tim Baggett" <tbaggett@austintx.net>
Date: Thu, 11 Feb 1999 10:18:29 -0600
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-4667-1999.02.11-10.26.49--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

All,

I came across a 'new' DSP simulation package the other day, which I have not
seen posted here before. I learned to use Matlab while in school, and became
quite hooked on it. I am a Matlab believer. However, it is very costly for
hobbiest, and I wouldn't recommend using the cheaper Student Version for
real DSP simulations since it limits the sizes of the matrices.

Octave is proported to be a Matlab clone. So much a clone, in fact, that
Matlab programs and toolboxes can be used with Octave.  Best of all, Octave
is made available under the Gnu license!

For the Octave homepage:
http://www.che.wisc.edu/octave/

I intend to play with Octave as some point and compare it to Matlab. I'd
like to hear from others who use Octave as well. I think it would be great
for this group to recommend a common DSP simulation package for TAPR DSP
development. In this way, we can share designs and simulations easily
amongst the group.

73rds
Tim, AA5DF

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 6. [dsp] Re: [DSP:1296] Re: EVM Radio Interface

From: "Doug Faunt N6tqs 510-655-8604" <FAUNT@NETCOM.COM>
Date: Thu, 11 Feb 1999 10:27:33
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-4668-1999.02.11-10.28.19--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

OK, I have now assembled my kit, and have a number of small notes,
and questions.

BTW, I got two of the connection correctro sticker, and will mail it to
anyone who needs it.

I couldn't get the front panel power connector wire into the TP1 holes,
so put a wire lead loop through both holes, and connected the provided
wire
to it.
No mention was made of the second part of the heat shrink, so I used it on
the
rear panel power jack, as I expect was expected.
The instructions for assembly state to assemble the rear panel to the case,
and then
connect to the EVM, but on mine the rear panel has to be off to get to
the EVM power connector.  Orientation of the power jack is significant,
and
for assembly, and isn't mentioned.
More later, I'm on the web page and have run out of space.

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 7. [dsp] Re: DSP Simulation packages

From: Jake Janovetz <janovetz@tempest.ece.uiuc.edu>
Date: Thu, 11 Feb 1999 10:39:54 -0600
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-4670-1999.02.11-10.48.16--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Tim,

   Yes, I've used octave here for several years and so have several
friends.  It's really well put together.  Last I checked, though,
it didn't support some of the higher-level Matlab things we've
been wanting for some time including multi-dimensional stuff.

    Cheers,
    Jake

PS  I still want to port the Motorola tools to Linux.  When is
    Motorola gonna get its head out of its ...


On Thu, Feb 11, 1999 at 10:18:29AM -0600, Tim Baggett wrote:
>
>
> All,
>
> I came across a 'new' DSP simulation package the other day, which I have not
> seen posted here before. I learned to use Matlab while in school, and became
> quite hooked on it. I am a Matlab believer. However, it is very costly for
> hobbiest, and I wouldn't recommend using the cheaper Student Version for
> real DSP simulations since it limits the sizes of the matrices.
>
> Octave is proported to be a Matlab clone. So much a clone, in fact, that
> Matlab programs and toolboxes can be used with Octave.  Best of all, Octave
> is made available under the Gnu license!
>

> For the Octave homepage:
> http://www.che.wisc.edu/octave/
>
>
> I intend to play with Octave as some point and compare it to Matlab. I'd
> like to hear from others who use Octave as well. I think it would be great
> for this group to recommend a common DSP simulation package for TAPR DSP
> development. In this way, we can share designs and simulations easily
> amongst the group.
>
>
> 73rds
> Tim, AA5DF
>
>
>
>
>
> ---
> You are currently subscribed to dsp as: JANOVETZ@UIUC.EDU
> To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

--
   janovetz@uiuc.edu    | Once you have flown, you will walk the earth with
 University of Illinois | your eyes turned skyward, for there you have been,
                        | there you long to return.     -- da Vinci
        PP-ASEL         | http://www.ews.uiuc.edu/~janovetz/index.html

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 8. [dsp] Re: [DSP:1296] Re: EVM Radio Interface

From: Doug Faunt N6TQS +1-510-655-8604 <faunt@netcom.com>
Date: Thu, 11 Feb 1999 08:59:05 -0800 (PST)
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Cc: dsp@lists.tapr.org
Message-ID: <LYR3532-4675-1999.02.11-11.00.10--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Sorry, that message was rather incoherent.  I'm used to composing
messages on my home system with editing capabilities.  The new web and
mailing list server seems a step backward in user friendliness, but
perhaps some of that can be tweeked in configuration.

A larger hole for the shields of the audio cables would have been
useful.

I wish someone had told me that the flash ram was included in the kit
before I went and bought my own.  Minor hassle, but...

Now, the question about power and ground: it looks to me as if there
might be ground problems if the unit is powered by the same 12V supply
as the rest of the setup.  It seems to me that the EVM ground will be
a diode drop above the common side of the supply.  Is this a real
problem?

73, doug


---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 9. [dsp] Re: DSP Simulation packages

From: "Tim Baggett" <tbaggett@austintx.net>
Date: Thu, 11 Feb 1999 11:00:09 -0600
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-4682-1999.02.11-11.08.26--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>   Yes, I've used octave here for several years and so have several
>friends.  It's really well put together.  Last I checked, though,
>it didn't support some of the higher-level Matlab things we've
>been wanting for some time including multi-dimensional stuff.

Good to have some Octave experience to consult!

Are some of these functions written in C (mex)? Can you recall which matlab

functions weren't supported by Octave, especially those that would be of use
in DSP? What kind of projects have you seen done with Octave?

>PS  I still want to port the Motorola tools to Linux.  When is
>    Motorola gonna get its head out of its ...


Well, this would be a great project for someone wanting to learn how
assemblers are put together. Linux makes this expecially easy with Lex and
Yacc. Would you be interested in taking this approach? O'Reilly has a great
Lex/Yacc book out.

Again, I wouldn't wish the task of directly porting the Motorola assembler
anywhere. Imagine what 15 years of history can do to poorly written
code.....

73,
Tim, AA5DF



---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 10. [dsp] Re: [DSP:1296] Re: EVM Radio Interface

From: Doug Faunt N6TQS +1-510-655-8604 <faunt@netcom.com>
Date: Thu, 11 Feb 1999 09:13:36 -0800 (PST)
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Cc: dsp@lists.tapr.org
Message-ID: <LYR3532-4683-1999.02.11-11.14.26--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

And my last post of this series.

I have some problems with the kit as conceived:

I'd have like to have seen availability of just the PC boards, and
panel templates.  I have every intention of repackaging this unit into
a smaller box, and I got a number of pieces that I don't really need,
including a flash ram chip.  It's expensive for what you get, although
pretty.  Far too much effort was expended on the case, and I would
have liked to have opted out on that.

The omission of schematics was a surprise, and unfortunate.

I'm pleased that it's finally here.
73, doug

---
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## 11. [dsp] Re: DSP Simulation packages

From: Johan Forrer <forrerj@peak.org>
Date: Thu, 11 Feb 1999 09:17:49 -0800 (PST)
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-4686-1999.02.11-11.18.37--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Tim,

I also been using Octave on Linux for a while ... works just
great with Matlab V4 .m files and the --traditional option.
Even the graphics is excellent.

Just a pity that Octave's distribution is lacking several key DSP
functions. Like for example, its missing Remez( ) -- the heart
of equiripple FIR design. I have been using my Matlab student
edition libraries with Octave for this purpose. That doesnt
cost too much and a lot cheaper than getting the full Matlab.

I also found the Octave support group on the net very interesting.

73

Johan

On Thu, 11 Feb 1999, Tim Baggett wrote:

> >   Yes, I've used octave here for several years and so have several
> >friends.  It's really well put together.  Last I checked, though,
> >it didn't support some of the higher-level Matlab things we've
> >been wanting for some time including multi-dimensional stuff.
>
> Good to have some Octave experience to consult!
>
> Are some of these functions written in C (mex)? Can you recall which matlab
> functions weren't supported by Octave, especially those that would be of use
> in DSP? What kind of projects have you seen done with Octave?
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> >PS  I still want to port the Motorola tools to Linux.  When is
> >    Motorola gonna get its head out of its ...
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> Well, this would be a great project for someone wanting to learn how
> assemblers are put together. Linux makes this expecially easy with Lex and
> Yacc. Would you be interested in taking this approach? O'Reilly has a great
> Lex/Yacc book out.
>
> Again, I wouldn't wish the task of directly porting the Motorola assembler
> anywhere. Imagine what 15 years of history can do to poorly written
> code.....
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> 73,
> Tim, AA5DF
>
>
>
> ---
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>


---
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## 12. [dsp] Re: DSP Simulation packages

From: Jake Janovetz <janovetz@tempest.ece.uiuc.edu>
Date: Thu, 11 Feb 1999 11:12:38 -0600
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-4687-1999.02.11-11.21.03--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Tim,

  The Octave support is excellent for most DSP stuff.  The only
things which (last I recall, remember) aren't supported are the
GUI stuff (no big loss there) and the multidimensional stuff.
Matlab 5.0+ supports 4,5,6... dimensional matrices which are all
very handy, but not really vital to more basic DSP.
  The multidimensional stuff is all in the Matlab kernel because
it requires new syntax and such -- things which can't easily be
done in mex files.  I haven't used Octave for some time now due
to the release of Matlab 5.x.  I don't think it would be too
difficult to add the multidimensional stuff.

  Re: Linux port...  Some time ago, I started a flex/bison assembler.
It's not too bad, but it doesn't support all the fancy things like
macros.  It also doesn't know illegal uses of instructions and
pipeline stalls (on the '302).  As I've said, once a Sun version
of code is written (albeit poorly), a port is not very far away
to Linux in most cases.

  If I could get someone with flex/bison experience to help out
on the task (50/50, say), I'd undertake cleaning up my current
assembler and making it useful.  (HINT HINT).  My web page has
the current code...


    Cheers,
    Jake

On Thu, Feb 11, 1999 at 11:00:09AM -0600, Tim Baggett wrote:
> >   Yes, I've used octave here for several years and so have several
> >friends.  It's really well put together.  Last I checked, though,
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> >been wanting for some time including multi-dimensional stuff.
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>
>
> ---
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--
   janovetz@uiuc.edu    | Once you have flown, you will walk the earth with
 University of Illinois | your eyes turned skyward, for there you have been,
                        | there you long to return.     -- da Vinci
        PP-ASEL         | http://www.ews.uiuc.edu/~janovetz/index.html

---
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## 13. [dsp] Re: DSP Simulation packages

From: Jake Janovetz <janovetz@tempest.ece.uiuc.edu>
Date: Thu, 11 Feb 1999 11:14:18 -0600
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-4688-1999.02.11-11.22.38--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Johan,

   I wrote a version of remez() in C about four years ago.
Perhaps the Octave folks could include it in their code.   Do
you know who to contact there?  (they're both GPL)

    Cheers,
    Jake


On Thu, Feb 11, 1999 at 09:17:49AM -0800, Johan Forrer wrote:
> Tim,
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> I also found the Octave support group on the net very interesting.
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> 73
>
> Johan

> 
> 
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> > 
> > 73,
> > Tim, AA5DF
> > 
> > 
> > 
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> > 
> 
> 
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```
--
   janovetz@uiuc.edu    | Once you have flown, you will walk the earth with
 University of Illinois | your eyes turned skyward, for there you have been,
                        | there you long to return.     -- da Vinci
        PP-ASEL         | http://www.ews.uiuc.edu/~janovetz/index.html

---
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```

## 14. [dsp] Re: DSP Simulation packages

From: Carles Perello <perello@imec.be>
Date: Thu, 11 Feb 1999 18:41:50 +0000 (WET)
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-4694-1999.02.11-11.30.20--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Thu, 11 Feb 1999, Tim Baggett wrote:

> >PS  I still want to port the Motorola tools to Linux.  When is
> >    Motorola gonna get its head out of its ...
> 
> 
> Well, this would be a great project for someone wanting to learn how
> assemblers are put together. Linux makes this expecially easy with Lex and
> Yacc. Would you be interested in taking this approach? O'Reilly has a great
> Lex/Yacc book out.
> 

Yeah this approach has already been made, check:

ftp://det.bi.ehu.es/pub/ham/evm/Dionne

There is an assembler plus a library to build up a debugger. I ported it
to Linux Alpha (on other Linuxes compiles wothout a glitch). I do plan to

add ncurses bells and whistles so it will look as the 'Mot' tools :)

cheers

carles

---
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## 15. [dsp] Re: [DSP:1296] Re: EVM Radio Interface

From: Douglas Braun <doug.braun@intel.com>
Date: Thu, 11 Feb 1999 13:43:43 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-4726-1999.02.11-12.45.18--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>Now, the question about power and ground: it looks to me as if there
>might be ground problems if the unit is powered by the same 12V supply
>as the rest of the setup.  It seems to me that the EVM ground will be
>a diode drop above the common side of the supply.  Is this a real
>problem?

I was concerned about this.  It means that your EVM board
will effectively be grounded via the serial port or audio connector
grounds.  You certainly don't want your power supply return to be
through the audio input connector!  I shorted out the
relevant diode on my board so that the power supply
ground was connected directly to the circuit
board ground.

Doug Braun
N1OWU

---
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## 16. [dsp] Re: PC-SIM & PC-DSP

From: Donald E Haselwood <dhaselwood@ij.net>
Date: Thu, 11 Feb 1999 11:33:27 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-4761-1999.02.11-15.20.21--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Mark,

I have the "free" DSP (DOS based that comes with the book) and the standard
versions (Win95).  The Win95 version had some bugs so I checked the
web-site.  There are some downloadable updates available, but I needed some
code to access the download.  I was not able to get a response from DSP
Solutions.  The DOS based one worked fine, and I have yet to bump up
against the limits.  I haven't used PC-SIM enough to comment.

Regards
Don, W4DH

At 05:19 AM 2/11/99 -0800, you wrote:
>Hello,
>
>
>Is anyone familiar with the PC-SIM Standard Edition DSP software. Does
>any have the software package? What did they think of it?

---
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## 17. [dsp] Re: DSP Simulation packages

From: Douglas Braun <doug.braun@intel.com>
Date: Thu, 11 Feb 1999 15:22:51 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>

Message-ID: <LYR3532-4762-1999.02.11-15.35.37--lyris.dsp#tapr.org@lists.tapr.org>
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Personally, I think it is a waste of time to write yet another
assembler for the 56002.  I mean, there is
already a free one that runs on Windows, DOS , and Linux
(with Dosemu).  What improvements could someone
reasonably expect to add that would justify all
the effort involved in a rewrite?

Also, the parsing, etc. for the assembler is the easy part.  The messy part is
correctly doing the right thing regarding the pipeline, code
generation, etc.  Any bugs in these areas will be nasty and hard to track down!

If people really want to do something like this, I would suggest improving the
Gnu C compiler to make it actually be useful.  It needs, at the very least:

1: To have the 56002's "fractional" data type built into the language.
2: Explicit support for the X/Y/XY/P data spaces (e.g. via new type declaration keywords).
3: A 24-bit integer type.

If that doesn;t grab you, how about a MELP-like voice compression/decompression
package that can be freely distributed?  That could have many
potential ham radio applications!

Doug
N1OWU

---
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## 18. [dsp] Re: DSP Simulation packages

From: Jake Janovetz <janovetz@tempest.ece.uiuc.edu>
Date: Thu, 11 Feb 1999 16:07:20 -0600
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-4769-1999.02.11-16.15.41--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Thu, Feb 11, 1999 at 03:22:51PM -0500, Douglas Braun wrote:
> Personally, I think it is a waste of time to write yet another
> assembler for the 56002.  I mean, there is
> already a free one that runs on Windows, DOS , and Linux
> (with Dosemu).  What improvements could someone
> reasonably expect to add that would justify all
> the effort involved in a rewrite?

Running an assembler through an emulator is a hack.  It's just
the wrong way to do it.  A portable assembler shouldn't be too
much to ask for, really.  On the other hand, I haven't undertaken
the project yet, so I obviously don't find it worth it yet...

It's pretty unreasonable to not release assembler source code.
What kind of intellectual property can you have tied up in an
assembler?

> Also, the parsing, etc. for the assembler is the easy part.  The messy part is
> correctly doing the right thing regarding the pipeline, code
> generation, etc.  Any bugs in these areas will be nasty and hard to track down!
>
> If people really want to do something like this, I would suggest improving the
> Gnu C compiler to make it actually be useful.  It needs, at the very least:
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> 1: To have the 56002's "fractional" data type built into the language.
> 2: Explicit support for the X/Y/XY/P data spaces (e.g. via new type declaration keywords).
> 3: A 24-bit integer type.

I don't think work on the GNU compiler is reasonable.  Compilers
for DSP have proven to be silly for any tight code.  Does the GNU
compiler feed into a GNU assembler for the 56002?  If not, you have
to run the compiler and feed the output to the assembler under
DOSEMU?

>
> If that doesn;t grab you, how about a MELP-like voice compression/decompression
> package that can be freely distributed?  That could have many

> potential ham radio applications!
>
> Doug
> N1OWU
>
> ---
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--
   janovetz@uiuc.edu    | Once you have flown, you will walk the earth with
 University of Illinois | your eyes turned skyward, for there you have been,
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## 19. [dsp] Re: DSP Simulation packages

From: "Louis Cobet" <louis_cobet@email.msn.com>
Date: Thu, 11 Feb 1999 22:31:54 -0800
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-4854-1999.02.12-00.32.59--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

All,

I wonder if anyone on the sig has worked with Ptolemy, which is another
simulation package also available on the internet. I don't have the URL.

Louis Cobet, K6MDH
K6MDH@arrl.net

You wrote:
>I came across a 'new' DSP simulation package the other day, which I have
not
>seen posted here before. I learned to use Matlab while in school, and
became
>quite hooked on it. I am a Matlab believer. However, it is very costly for
>hobbiest, and I wouldn't recommend using the cheaper Student Version for
>real DSP simulations since it limits the sizes of the matrices.
>
>Octave is proported to be a Matlab clone. So much a clone, in fact, that
>Matlab programs and toolboxes can be used with Octave.  Best of all, Octave
>is made available under the Gnu license!
>
>For the Octave homepage:
>http://www.che.wisc.edu/octave/
>
>
>I intend to play with Octave as some point and compare it to Matlab. I'd
>like to hear from others who use Octave as well. I think it would be great
>for this group to recommend a common DSP simulation package for TAPR DSP
>development. In this way, we can share designs and simulations easily
>amongst the group.
>
>
>73rds
>Tim, AA5DF
>
>
>
>
>
>---
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>To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
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## 20. [dsp] Re: DSP Simulation packages

From: Johan Forrer <forrerj@peak.org>
Date: Fri, 12 Feb 1999 11:51:23 -0800 (PST)
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-4937-1999.02.12-13.52.19--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Jake,

Perhaps you want to follow up on this ... please see:

> I'd like to call octave routines from my c++ code.  Is this possible?
>
Do you mean to call the octave libraries or to call octave m-files?
I think there was some discussion of this on the help-list;
check the archives at http://www.che.wisc.edu/octave.

73, Johan

On Thu, 11 Feb 1999, Jake Janovetz wrote:

> Johan,
>
>    I wrote a version of remez() in C about four years ago.
> Perhaps the Octave folks could include it in their code.   Do
> you know who to contact there?  (they're both GPL)
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>     Jake
>
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>         PP-ASEL         | http://www.ews.uiuc.edu/~janovetz/index.html
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## 21. [dsp] New updates of PSK31 for EVM.

From: Eduardo Jacob <jtpjatae@bicc00.bi.ehu.es>
Date: Sat, 13 Feb 1999 14:46:42 +0100
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Cc: hfsig@tapr.org, dsp@tapr.org
Message-ID: <LYR3532-5093-1999.02.13-07.47.14--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>From Peter Martinez G3PLX

The PSK31EVM program for the DSP56002EVM kit for WINDOWS has been updated
to fix the problems with file-send, Windows NT, and Large Fonts, so it is
now the same as the soundcard version.

The PSK31 program for the EVM working under DOS has also been updated to
include the on-screen waterfall display. Both WINDOWS and DOS versions now
use the same CLD file which runs the DSP software in the EVM.

DIRECT CONVERSION WITH PSK31.
The EVM versions of PSK31 can now be used, along with suitable hardware, to
build a complete direct-conversion PSK31 transceiver. This should be of
interest to home-contruction fans and those experimenting with VLF bands.

This has been done by using the stereo capability of the EVM card to
process the audio input and output signals as a matched pair of signals
with a 90-degree audio phase-shift between them.

On the transmit side, the two audio outputs can be fed to two balanced
mixers driven by two RF oscillators which have a 90 degree phase-shift
between them. Combining their RF outputs cancels out one sideband, exactly
like a phasing-type SSB generator so that only a single RF output frequency
is generated.

Similarly on the receive side, by feeding the received RF signal to both
mixers and feeding their audio outputs to the EVM stereo inputs, a
single-sideband direct-conversion PSK31 receiver is formed. This feature
will be of interest to homebrew QRP enthusiasts and those experimenting
with VLF bands.

For example, using a readily-available 14318.18 kHz crystal, a
divide-by-four will give the neccesary 90-degree phase shifts at 3579.5
kHz, and two balanced mixers then complete the heart of a transceiver for
the 3580-3581 kHz frequency range with the PSK31 working at 600-1600Hz.

Windows EVM version is here

ftp://det.bi.ehu.es/pub/ham/psk31/p31evw123.zip

Dos EVM version is here

ftp://det.bi.ehu.es/pub/ham/psk31/p31evd302.zip

73
Peter

>>>>

PSK31 WWW pages will be updated later.

For the beginners the PSK31 Homepage is at

http://aintel.bi.ehu.es/psk31.html

Regards Eduardo/EA2BAJ
---
Eduardo EA2BAJ
DSP and HAM:  http://det.bi.ehu.es/~jtpjatae/ham.html
VHF PACKET: EA2BAJ @ EA2URV
PGP Key avlb: Send email w/subject: PGPKEY
fingerprint : D8 FA 54 49 F7 40 BA AA 09 1A 73 40 A4 26 ED BD

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 22. [dsp] Re:PC-SIM

From: Mark Dell <greatmachine@yahoo.com>
Date: Mon, 15 Feb 1999 09:40:58 -0800 (PST)
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-5580-1999.02.15-11.41.29--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello,

Although PC-SIM is not the greatest of DSP simulators
it has the capability that I need to simulate specific algorithms in
my neuroresearch. Unfortunately, I am unable to obtain the full
version of PC-SIM due to budget constraints. Is it possible that
someone could send me a copy of PC-SIM?

regards,

Mark

_____
DO YOU YAHOO!?
Get your free @yahoo.com address at http://mail.yahoo.com

---
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To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 23. [dsp] Re:PC-SIM

From: "Tim Baggett" <tbaggett@austintx.net>
Date: Mon, 15 Feb 1999 12:21:04 -0600
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-5588-1999.02.15-12.28.56--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>Although PC-SIM is not the greatest of DSP simulators
>it has the capability that I need to simulate specific algorithms in
>my neuroresearch. Unfortunately, I am unable to obtain the full
>version of PC-SIM due to budget constraints. Is it possible that
>someone could send me a copy of PC-SIM?

Whatever people do at home is entirely up to them. However, I would not
believe that TAPR would like to condone the piracy of software, especially

if it takes place over TAPR's resources (mail lists & FTP sites, etc). In the past TAPR has had a special sale on PC-SIM packages, through a deal set up with the publisher. You may wish to contact the TAPR office (and search the DSP list archives) to see if they still have a copy or two around, and if it is a full or student version. If there is enough interest, perhaps we can set up another special purchase.

I understand the frustration of not being able to obtain tools that are almost necessary for research studies or home projects - been there and done that! I can only suggest one of the GNU simulation packages that was recently discussed on the list:

Octave:
http://www.che.wisc.edu/octave/

Ptolemy:
http://ptolemy.eecs.berkeley.edu/

Good luck to you on your research!

Regards,
Tim, AA5DF

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 24. [dsp] DSP56002EVM: What kinds of terminal programs can you use?

From: Michael Rudzki <kf8bex@oeonline.com>
Date: Mon, 15 Feb 1999 17:53:01 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-5640-1999.02.15-16.54.15--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello.

I assembled my EVM interface kit two weeks ago and finally got around to testing it this weekend. It seems to boot okay into JNOS, with the FSK1200 modem, but I couldn't get anything else to work with it.

What modems and terminal programs can you use for 1200 baud terrestrial packet?

What HF modems (AMTOR, Baudot, PACTOR, etc) are available for the EVM?

What terminal programs will work with these HF modems?

I remember reading that the EVM runs in the KISS mode. Is this true for every modem, including the HF modems?

Is anyone using the EVM with an Icom pair (i.e., 271/471 or 275, 475)?

If so, can the EVM control both radios? Through the "Icom" port?

Thanks everyone and 73,

Mike, N8MR
n8mr@amsat.org

---
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To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 25. [dsp] TI Anyone?

From: "L.M. (Larry) Hicks" <lhicks@pantel.ns.ca>
Date: Mon, 15 Feb 1999 23:59:04 -0400
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-5693-1999.02.15-21.46.59--lyris.dsp#tapr.org@lists.tapr.org>

Rendered body type: text/plain

Hello...

I am new to the SIG list so please excuse me if this has been asked and replied to before. I am developing various communications applications using Texas Instruments 320C series. Right now I am using the 320F206 because it has internal flash memory and uses very little real estate.

I have used the White Mountain DSP DSK with Code Explorer to write the application. After much sweat it appears to be working. Now, however, I find out that I have a big problem since I can not see any way to download it into the standard TI part (see below).

The boot loader that comes with the part from TI is written at the bottom of Flash 0 with a start vector from $0000. This area is supposed to get over written when I program the part!! If I just go ahead I will end up with a OTP part!! Grrrr....

To overcome this I plan to write a relocatable version of the boot loader and stick it high up in memory when I load the DSP application. I plan to initialize the INT0 vector to point to this relocatable boot loader so that I will be able to re-use the part. Has anyone had experience with this part and/or with these types of issues??

Of course there is another issue... the WM DSP flash loader doesn't like the TI version of the boot loader so I cannot write my code to it at any rate (yet) but I am working on that one. I think that I will end up assembling and linking it with the TI tools that I have and then just flash it with the standard TI flash routine. Anyone had experience with WM DSP???

Nice to see all the interesting comments on tools. Keep it up - I'm learning!!!

73,

Larry  VO1HL/VE1

NB:  Please take note of my new **EMAIL** address below...


                          - 30 -
/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\
\/   L.M.(Larry) Hicks                    A.R.S.   VO1HL   \/
/\   Technical Director               Tel. 902-468-5998   /\
\/   Pantel Int'l Inc.                Fax. 902-468-6577   \/
/\   125 Joseph Zatzman Dr.                       EMail:   /\
\/   Nova Scotia, CAN, B3B 1W1      lhicks@pantel.ns.ca   \/
 \/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/



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## 26. [dsp] Re: DSP56002EVM: What kinds of terminal programs can you use?

From: Douglas Braun <doug.braun@intel.com>
Date: Tue, 16 Feb 1999 10:46:48 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-5774-1999.02.16-09.51.19--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 05:53 PM 2/15/99 -0500, you wrote:
>Hello.
>
>What modems and terminal programs can you use for 1200 baud terrestrial
>packet?

I regularly use fsk1200.asm, g3ruh.asm, and psk.asm.  They all work fine.
On th ehost PC, for satellite work with the g3ruh and psk modems, I use WISP.
For terrestial packet, I use pmp.exe.  This is a very simple
program that works with any KISS modem.

If a certain program does not work for you, you should check that the left vs.
right channel assignments and the PTT signal assignment match your
hardware setup.  You may have to edit and reassemble the programs.

>What HF modems (AMTOR, Baudot, PACTOR, etc) are available for the EVM?

There are a bunch, in varying stages of maturity.  The PSK31 program seems to
be very popular, and the author G3PLX has put a lot of work into it.  Johan Forrer has
put together a PACTOR package that uses the EVM, but I am not sure of its status
at the moment.  There is a program called MT63 that looks interesting, but I am not
sure who is running it.  There is also the EvmHell program I but together, which
is interesting if you are into playing with unusual operating modes...

For info on PSK31, look at: ftp://det.bi.ehu.es/pub/ham/psk31

>What terminal programs will work with these HF modems?

Generally, each modem program has a companion program for the host PC,
and the communication protocol between the PC and EVM is specific to
the particular set of programs.  Stuff intended for packet will probably use KISS.
There may be a RTTY program what will work with a simple ASCII terminal emulator
program, but I forget.

>I remember reading that the EVM runs in the KISS mode. Is this true for every
>modem, including the HF modems?

(See above answers.)  I have never seen a packet modem that did not use KISS.
In theory it may be possible to put most of the TNC2 functionality in the EVM, but
I sort of doubt it is worth the trouble.

>Is anyone using the EVM with an Icom pair (i.e., 271/471 or 275, 475)?

Not I.

>If so, can the EVM control both radios? Through the "Icom" port?

I have never seen any software for the EVM that that could control the
radio (except for activating the PTT :-) ).   Actually, the PSK
program controls the tuning with the UP and DOWN signals,
but that's a simpler sort of thing.

Doug
N1OWU

---
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To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 27. [dsp] EVM hell?

From: "Don Elsner" <elsner@csd.uwm.edu>
Date: Tue, 16 Feb 1999 10:07:18 -0600
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-5776-1999.02.16-10.17.29--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Doug-
What modes are you playing with?  I checked the TAPR site but did not see
it.  Is it posted anywhere??

73 - Don KS9F

elsner@csd.uwm.edu

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 28. [dsp] Re: EVM hell?

From: Douglas Braun <doug.braun@intel.com>
Date: Tue, 16 Feb 1999 11:59:56 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-5786-1999.02.16-11.01.18--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 10:07 AM 2/16/99 -0600, Don Elsner wrote:
>Doug-
>What modes are you playing with?  I checked the TAPR site but did not see
>it.  Is it posted anywhere??

Look at: http:/www.erols.com/dougbert

I can send people more information on the Feldhell mode if anyone is interested.

Doug
N1OWU

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 29. [dsp] Re: EVM hell?

From: Eduardo Jacob <jtpjatae@bicc00.bi.ehu.es>
Date: Tue, 16 Feb 1999 18:12:15 +0100
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-5793-1999.02.16-11.28.31--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>What modes are you playing with?  I checked the TAPR site but did not see
>it.  Is it posted anywhere??

I would sugest you to take a look at my homepage, as it has every modem/soft I am aware of for the EVM 56002

Eduardo/EA2BAJ

---
Eduardo EA2BAJ
DSP and HAM:   http://det.bi.ehu.es/~jtpjatae/ham.html
VHF PACKET: EA2BAJ @ EA2URV
PGP Key avlb: Send email w/subject: PGPKEY
fingerprint : D8 FA 54 49 F7 40 BA AA 09 1A 73 40 A4 26 ED BD

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 30. [dsp] memory extension for the ez-lite!

From: Michael Keller <keller@gmx.net>
Date: Wed, 17 Feb 1999 09:23:41 +0200
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-5952-1999.02.17-02.23.23--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi,

is there anybody who works with the ez-lite (adsp21061) and is using the
diag21k with external memory? i have some problems to monitor the memory.
are there some special hints?

73 Mike (dl6iak)

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 31. [dsp] Re: [DSP:1185]unsubscribe

From: Jivodar Kuzmanov <vnpage@triada.bg>
Date: Wed, 17 Feb 1999 14:55:05 +0200
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-5972-1999.02.17-06.57.33--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I want to unsubscribe.
I don't want to receive none of these [DSP] E-mails.

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 32. [dsp] Re: EVM questions

From: Douglas Braun <doug.braun@intel.com>
Date: Wed, 17 Feb 1999 12:55:36 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Cc: dsp@tapr.org
Message-ID: <LYR3532-6025-1999.02.17-11.57.35--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 06:35 PM 2/16/99 -0500, you wrote:

>
>This afternoon was the first time I had a few hours to play with
>my EVM. I downloaded N1OUL's zip file of programs, including a new
>bios2.asm file. I assembled bios2, psk, fsk1200 and flshboot. Then
>I started EVM56K.exe and loaded, in this order:
>
>BIOS2.CLD
>FSK1200.CLD
>FLSHBOOT.CLD
>
>Then I exited the EVM56K program, turned the DSP off then turned it
>back on (what I figured the manual meant by "reset the DSP"). I then
>tried to see if any data from the radio would result in any signs of
>life in the DSP.

Did you execute the "GO" command to actually write the EEPROM?

There is a small reset button on the EVM obard, but turning the power off and on would also be OK.

Here are some things you can do to debug this situation:

1: After sucessfully burning the EEPROM, resetting the EVM should cause some of the LEDs
    to turn on and off for 2 or 3 seconds, and then some should remain on.  If nothing happens
    to the LEDS when you reset or power up the EVM, the EEPROM is probably unwritten or improperly
    written.

2: If the LEDs look OK, try running the DL command:  Connect the serial cable to the SCI port, and
    run the command "dl -p1 -x" (or "dl -p2 -x" if you use COM port 2).  The LEDS should blink again
    and the program should print the version of Leonid that is in the EEPROM.  If DL hangs and/or
    complains that the EVM is not present, double-check your serial port cabling.

3: Now try using DL to actually load a program.  I suggest TONE.LOD.  Run: "dl -p1 tone".  If you do not
 have
    the file tone.lod, you will have to assemble tone.asm and run the cldlod utility.  I suggest making
a little
    .BAT file for assembling programs more easily.  Here is what I use:

        @if not exist %1.asm goto nofile
        e:\ham\clas56\bin\asm56000 -ie:\ham\evm -a -b -g -l %1
        @if not exist %1.cld goto nofile
        e:\ham\clas56\bin\cldlod %1.cld > %1.lod
        @goto done
        :nofile
        @echo Missing file
        :done

    When you download the "tone" program, you should hear a tone from the headphone jack.  To change the
    frequency or amplitude of the tone, run e.g. "dl tone f=2100 rms=0.25".

4: Now load the fsk1200 modem by running: "dl fsk1200".  Then start up your packet program.  I recommend
    the KISS version of PMP, because its configuration is very simple.  If thinks work, great.
Otherwise, your
    left/right channel usage may not match the program's expectations.  Edit and reassemble the program
as
    necessary.  You can also change the CODEC gain settings to match your rig.

5: Once you have FSK1200 (or whatever program you want to use by default) working the way you like,
    you can re-write the EEPROM with it, and it will run properly at power-up.  Keep in mind how the
BIOS
    works:   At reset, it waits 2 or 3 seconds for a command from the SCI port.  If nothing arrives, it
starts
    up the built-in program that you wrote to the EEPROM.  The DL program can force a reset of the EVM
    at any time by writing a "magic" byte string to the SCI port.  Once the EVM acknowledges the reset,
DL will
    start downloading the new program to it.  But note that if a program changes the SCI baud rate, this
    auto-reset feature will not work, and you will have to manually reset it.


---
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## 33. [dsp] Re: EVM questions

From: "Roger Rehr" <rrehr@epix.net>
Date: Sat, 20 Feb 1999 23:51:17 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>

Cc: <dsp@tapr.org>
Message-ID: <LYR3532-6886-1999.02.20-22.59.48--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

If you recently put together the very nice TAPR EVM enclosure kit and
downloaded the filter files from TAPR as collected by KC7WW, but were unable
to get them to run, you may want to read this message.

I couldn't get any of the Alef Null files to run.  It turned out that there
were some simple instances of variable names (e.g. buflen for one) being the
same in leonid.asm and the application .asm files, and this kept things from
compiling.

With a few simple variable changes, I was able to get bandpass, corelflt,
fft-cut, inout, and talk to work, and used them for noise reduction on some
EME contacts this evening.  And I think rtty works though I didn't look for
a rtty station.  QRMQRN howls for some reason and wasn't useable here.

If you want the modified .asm files, or the .cld files, just let me know and
I'll email as attachments.

WHen you compile, remember to include the needed auxiliary .asm files in the
same directory.  If you are getting strange error messages when you compile
after you correct the duplicate variable names, its probably because of not
having the necessary files in the directory.

73 from
Roger Rehr  W3SZ ex-AA3QK ex-WA3JYM
mailto:rrehr@epix.net        FN20ah
http://www.epix.net/~rrehr
2 Merrymount Road, Reading, PA  19609
610.670.8687

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 34. [dsp] Re: EVM questions

From: "Roger Rehr" <rrehr@epix.net>
Date: Sun, 21 Feb 1999 00:26:33 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Cc: <dsp@tapr.org>
Message-ID: <LYR3532-6890-1999.02.20-23.28.02--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

After I sent the first message I found that qrmqrn as downloaded
was set up to use the line input.  When this line was commented
out and the mic in line uncommented it worked fine.

If anyone has succeeded in cascading corelflt and bandpass in a
single file so that both functions are available simultaneously,
I'd be most interested.

I find for corelflt I like it better for EME work with COrel len
at 256 instead of 127 as downloaded.

Thanks to all for such a nice project and software!!

P.S. If amyone can do software like the DSPBOX software for the
TI DSK 'C50, that would be ideal!!  See
http://www.tapr.org/tapr/html/softf.html ,
go to the 'root directory', and then 'dsp' directory and then 'recent
uploads' and then 'dspbox.txt' to see what I mean.

73 from
Roger Rehr  W3SZ ex-AA3QK ex-WA3JYM
mailto:rrehr@epix.net        FN20ah
http://www.epix.net/~rrehr
2 Merrymount Road, Reading, PA  19609
610.670.8687

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 35. [dsp] Re: EVM questions

From: Douglas Braun <doug.braun@intel.com>
Date: Sun, 21 Feb 1999 10:08:35 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-6951-1999.02.21-09.09.53--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 11:51 PM 2/20/99 -0500, you wrote:
>If you recently put together the very nice TAPR EVM enclosure kit and
>downloaded the filter files from TAPR as collected by KC7WW, but were unable
>to get them to run, you may want to read this message.
>
>I couldn't get any of the Alef Null files to run.  It turned out that there
>were some simple instances of variable names (e.g. buflen for one) being the
>same in leonid.asm and the application .asm files, and this kept things from
>compiling.


A couple of years ago, I uploaded a collection of stuff for the EVM
called n1owu_11.zip.  This package has versions of
Leonid, several modems and other EVM applications, DLEXE, SPY.EXE,
and one or two other goodies.

This file is at: ftp://ftp.tapr.org/dsp/recent_uploads/n1owu_11.zip.
If you try to find it by simply browsing through the TAPR site,
you may miss it, because it is in the "recent uploads" are, not
with the other EVM software.

This package should have all the source files you need to compile
the included applications without any errors.  They should also
run (on my hardware setup, at least).  However, if your radio
hookup is different than mine, you may have to change
the conditional compilation lines for the CODEC channels, etc.

If you go to www.erols.com/dougbert, you will find a couple
of updates to some of the files, such as bios2.asm.

When I get a chance, I ought to review the package and
update it by cleaning out any obsolete or useless stuff,
and making any changes to the applications that are needed
to make them work without modification with the TAPR interface
circuit.  If anyone has any suggestions in this regard, please
let me know.

Doug
N1OWU


>>73 from
>Roger Rehr  W3SZ ex-AA3QK ex-WA3JYM
>mailto:rrehr@epix.net        FN20ah
>http://www.epix.net/~rrehr
>2 Merrymount Road, Reading, PA  19609
>610.670.8687
>
>
>
>---
>You are currently subscribed to dsp as: doug.braun@intel.com
>To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
>

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 36. [dsp] Filters

From: "Ray Suban" <rays@global.net.mt>
Date: Sun, 21 Feb 1999 18:49:02 +0100
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-6974-1999.02.21-11.51.34--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I recently received the enclosure for the EVM. It is now up and running and I do not find any problems running any of the software in the KC7WW collection. What I did miss when running the filters is the headphones socket, so I added the headphones socket to the back panel of the enclosure. I think this is something to have if you intend to experiment with filters.

Ray

9H1EJ

## 37. [dsp] Re: Filters

From: Douglas Braun <doug.braun@intel.com>
Date: Sun, 21 Feb 1999 13:00:38 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-6976-1999.02.21-12.02.01--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

If anyone else wants to do this, be aware of one thing:

The "ground" connection of the EVM headphone jack is NOT at ground potential.
It has something like 2.5 volts on it.  If stick a stereo headphone socket in
your enclosure's front panel and connect it to the EVM's socket, you could
create a short from the headphone pseudo-ground to the real ground.
I guess the solution is to find a chassis-mount headphone socket that
does NOT have an electrical connection between its common terminal and
its mounting hardware.  Read the CODEC hardware data sheet (does this
still come with the EVM?) for more info.

My solution was to add a dedicated audio amp to one output channel
and hook it to a speaker.  I do not normally use the headphone output,
but it can be handy for debugging software...

Doug
N1OWU

At 06:49 PM 2/21/99 +0100, you wrote:

>
> I recently received the enclosure for the EVM. It is now up and running and I
> do not find any problems running any of the software in the KC7WW collection.
> What I did miss when running the filters is the headphones socket, so I added
> the headphones socket to the back panel of the enclosure. I think this is
> something to have if you intend to experiment with filters.
>
> Ray
>
> 9H1EJ

---
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## 38. [dsp] Re: Filters

From: "L. J. Shepherd" <ljs@west.net>
Date: Sun, 21 Feb 1999 13:22:03 -0800
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-7015-1999.02.21-15.23.11--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Doug is very correct on the need to isolate the phone jack......Insulated
shoulder washers are available to isolate commonly available mini phone
jacks (one flat washer and one shoulder washer).....I'm not sure but I
think I got mine at radio shack.        .......L. J. Shepherd   K6OYY

At 01:00 PM 2/21/99 -0500, you wrote:
>If anyone else wants to do this, be aware of one thing:
>
>The "ground" connection of the EVM headphone jack is NOT at ground potential.
>It has something like 2.5 volts on it.  If stick a stereo headphone socket in
>your enclosure's front panel and connect it to the EVM's socket, you could
>create a short from the headphone pseudo-ground to the real ground.
>I guess the solution is to find a chassis-mount headphone socket that
>does NOT have an electrical connection between its common terminal and
>its mounting hardware.  Read the CODEC hardware data sheet (does this
>still come with the EVM?) for more info.
>
>My solution was to add a dedicated audio amp to one output channel
>and hook it to a speaker.  I do not normally use the headphone output,
>but it can be handy for debugging software...
>
>Doug

>N1OWU
>
>At 06:49 PM 2/21/99 +0100, you wrote:
>
>>
>> I recently received the enclosure for the EVM. It is now up and running
and I
>> do not find any problems running any of the software in the KC7WW
collection.
>> What I did miss when running the filters is the headphones socket, so I
added
>> the headphones socket to the back panel of the enclosure. I think this is
>> something to have if you intend to experiment with filters.
>>
>> Ray
>>
>> 9H1EJ
>
>
>
>
>---
>You are currently subscribed to dsp as: LJS@WEST.NET
>To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
>
>


---
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To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 39. [dsp] Download Mirror

From: Eduardo Jacob <jtpjatae@bicc00.bi.ehu.es>
Date: Fri, 26 Feb 1999 15:08:19 +0100
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-7851-1999.02.26-08.11.11--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I have created a "download mirror" of the PSK31 WWW page in another ISP.
This ISP is on a entirely different backbone and should be (at least
nominally) much better connected to the USA than the old one, but I think
that is worse connected to Europe. Everything in the original webpage
should be in the new one, except the mailist archive which is only in the
oldest one.

        Original PSK31 WWW Homepage
        http://aintel.bi.ehu.es/psk31.html

        Download Mirror of PSK31 WWW Homepage
        http://www.kender.es/~edu/psk31.html

        For the USA keep in mind that the rules we use for getting files from USA
are the same that you should use for getting files from Europe: Get them
while the others sleep :-)

        Eduardo/EA2BAJ

---
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## 40. [dsp] Re: EVM questions

From: Michael Rudzki <kf8bex@oeonline.com>
Date: Sat, 27 Feb 1999 19:03:06 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-8088-1999.02.27-18.04.40--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Doug,

I have a few free days, so I thought the DSP would make a fine project on a
cold,
rainy Michigan weekend.

I loaded the DSP using the "GO" command and everything went as planned. LEDs
now light and blink, etc. If I load the files mentioned below, BIOS2,
FSK1200, FLSHBOOT,
then run the GO command it programs the EEPROM. Can I then use the "DL" command

to load another program, or do I have to erase the EEPROM somehow?

The FSK1200 file is the only one I've used so far. I tried assembling the
BPSK1200.ASM
file but I keep getting the following errors:

```
C:\DSP>

C:\DSP>asm bpsk1200

C:\DSP>c:\evm\asm56000 -ie:\dsp -a -b -g -l bpsk1200
Motorola DSP56000 Assembler  Version 5.3.2
Copyright Motorola, Inc. 1987-1994.  All rights reserved.
**** 59 [leonid.asm 45]: ERROR --- Symbol redefined: EVM56K (Operand field)
**** 405 [bpsk1200.asm 24]: ERROR --- Symbol redefined: EVM56K (Operand field)
**** 1752 [bpsk1200.asm 1207]: ERROR --- Symbol undefined on pass 2: SciTimerRat
e (X data move field)
**** 1754 [bpsk1200.asm 1209]: ERROR --- Symbol undefined on pass 2: SciTimerRat
e (X data move field)
Missing file

C:\DSP>

C:\DSP>
```

Then I tried PMP, Version 1.1 of 2-3-97 with the FSK1200 modem. In the
PMP.CFG file, I
changed the MYCALL to N8MR and the SERIALPORT to 1. When I tried running
PMP.EXE
under Windows95, I got the screen to come up, but it is not split into three
sections as
stated in PMP.DOC. I also do not have any keyboard control.

Then I connected the EVM to the radio, getting the DCD LED to light up when
data is received,
but PMP did not reflect the data.

Do you have any suggestions?

Thanks

Mike, N8MR

At 12:55 PM 2/17/99 -0500, you wrote:
>At 06:35 PM 2/16/99 -0500, you wrote:
>
>>
>>This afternoon was the first time I had a few hours to play with
>>my EVM. I downloaded N1OWU's zip file of programs, including a new
>>bios2.asm file. I assembled bios2, psk, fsk1200 and flshboot. Then
>>I started EVM56K.exe and loaded, in this order:
>>
>>BIOS2.CLD
>>FSK1200.CLD
>>FLSHBOOT.CLD
>>
>>Then I exited the EVM56K program, turned the DSP off then turned it
>>back on (what I figured the manual meant by "reset the DSP"). I then
>>tried to see if any data from the radio would result in any signs of
>>life in the DSP.
>
>Did you execute the "GO" command to actually write the EEPROM?
>
>There is a small reset button on the EVM obard, but turning the power off
and on would also be OK.
>
>Here are some things you can do to debug this situation:
>
>1: After sucessfully burning the EEPROM, resetting the EVM should cause
some of the LEDs
>    to turn on and off for 2 or 3 seconds, and then some should remain on.
If nothing happens
>    to the LEDS when you reset or power up the EVM, the EEPROM is probably
unwritten or improperly
>    written.

>
>2: If the LEDs look OK, try running the DL command:  Connect the serial
cable to the SCI port, and
>    run the command "dl -p1 -x" (or "dl -p2 -x" if you use COM port 2).
The LEDS should blink again
>    and the program should print the version of Leonid that is in the
EEPROM.  If DL hangs and/or
>    complains that the EVM is not present, double-check your serial port
cabling.
>
>3: Now try using DL to actually load a program.  I suggest TONE.LOD.  Run:
"dl -p1 tone".  If you do not have
>    the file tone.lod, you will have to assemble tone.asm and run the
cldlod utility.  I suggest making a little
>    .BAT file for assembling programs more easily.  Here is what I use:
>
>       @if not exist %1.asm goto nofile
>       e:\ham\clas56\bin\asm56000 -ie:\ham\evm -a -b -g -l %1
>       @if not exist %1.cld goto nofile
>       e:\ham\clas56\bin\cldlod %1.cld > %1.lod
>       @goto done
>       :nofile
>       @echo Missing file
>       :done
>
>    When you download the "tone" program, you should hear a tone from the
headphone jack.  To change the
>    frequency or amplitude of the tone, run e.g. "dl tone f=2100 rms=0.25".
>
>4: Now load the fsk1200 modem by running: "dl fsk1200".  Then start up your
packet program.  I recommend
>    the KISS version of PMP, because its configuration is very simple.  If
thinks work, great.  Otherwise, your
>    left/right channel usage may not match the program's expectations.
Edit and reassemble the program as
>    necessary.  You can also change the CODEC gain settings to match your rig.
>
>5: Once you have FSK1200 (or whatever program you want to use by default)
working the way you like,
>    you can re-write the EEPROM with it, and it will run properly at
power-up.  Keep in mind how the BIOS
>    works:   At reset, it waits 2 or 3 seconds for a command from the SCI
port.  If nothing arrives, it starts
>    up the built-in program that you wrote to the EEPROM.  The DL program
can force a reset of the EVM
>    at any time by writing a "magic" byte string to the SCI port.  Once the
EVM acknowledges the reset, DL will
>    start downloading the new program to it.  But note that if a program
changes the SCI baud rate, this
>    auto-reset feature will not work, and you will have to manually reset it.
>
>
>---
>You are currently subscribed to dsp as: KF8BEX@OEONLINE.COM
>To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
>
>

Mike
kf8bex@oeonline.com


---
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## 41. [dsp] Re: EVM questions

From: Douglas Braun <doug.braun@intel.com>
Date: Sun, 28 Feb 1999 09:31:28 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-8156-1999.02.28-08.33.06--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 07:03 PM 2/27/99 -0500, you wrote:

>I loaded the DSP using the "GO" command and everything went as planned. LEDs
>now light and blink, etc. If I load the files mentioned below, BIOS2,
>FSK1200, FLSHBOOT,
>then run the GO command it programs the EEPROM. Can I then use the "DL"

>command
>to load another program, or do I have to erase the EEPROM somehow?

Yes!  Just do "DL someprogram".  The only time you have to
mess with the EEPROM is when you want to update the default application
or the BIOS itself.

>The FSK1200 file is the only one I've used so far. I tried assembling the
>BPSK1200.ASM
>file but I keep getting the following errors:

I think that BPSK1200.ASM is very old, and it is no longer compatible
with the current BIOS.     If you want to try using the EVM with PSK digital
satellites, you should use PSK.ASM.
>
>Then I tried PMP, Version 1.1 of 2-3-97 with the FSK1200 modem. In the
>PMP.CFG file, I
>changed the MYCALL to N8MR and the SERIALPORT to 1. When I tried running
>PMP.EXE
>under Windows95, I got the screen to come up, but it is not split into three
>sections as
>stated in PMP.DOC. I also do not have any keyboard control.
>
>Then I connected the EVM to the radio, getting the DCD LED to light up when
>data is received,
>but PMP did not reflect the data.
>
>Do you have any suggestions?

If the serial port stuff and the modem are OK, PMP should display
all the packets it receives (like the "monitor" mode of many TNCs).
The split screen thing applies when you have connected to
another station (with Alt-C).  You are running the "1.1K" version,
with my name on it, right?

Another tip is to get one of those serial port line monitor thingies.
This is a little plastic gadget with male and female DB-25 sockets
and a bunch of LEDs.  You stick it in line with a RS-232 cable,
and the LEDs show you the state of all the signals.  Then
you can see if the EVM is actually sending KISS-format data when it
receives a packet from the radio.

Good luck,

Doug
N1OWU

---
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## 42. [dsp] More EVM questions

From: Michael Rudzki <kf8bex@oeonline.com>
Date: Sun, 28 Feb 1999 09:40:40 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-8157-1999.02.28-08.42.18--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I am trying to get my EVM to work with the WISP satellite communications
program.

In the Satellite Setup menu, what TNC type should be selected?  DSP-12 ?
TNC-2 ?

Should anything be entered in the TNC Mode?

Thanks and 73

Mike, N8MR

Mike
kf8bex@oeonline.com

---
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## 43. [dsp] Re: More EVM questions

From: "Mark L. Hammond" <hammond@camel.campbell.edu>
Date: Sun, 28 Feb 1999 10:09:13 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-8160-1999.02.28-09.10.45--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 09:40 AM 2/28/99 -0500, you wrote:
>I am trying to get my EVM to work with the WISP satellite communications
>program.

Works great with Wisp!

>
>In the Satellite Setup menu, what TNC type should be selected?  DSP-12 ?
>TNC-2 ?

TNC-2.   To Wisp, the EVM appears as a TNC-2 in KISS mode (which, it is ;)

>
>Should anything be entered in the TNC Mode?

Nope!

>
>
>Thanks and 73
>
>Mike, N8MR

Keep working at it Mike.  It's a great little box.  Once you get it going,
you can count on good, reliable operation.  The rewards are worth the work.

73,

Mark L. Hammond   [KC4EBR]

---
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# March 1999

Original source file: dsp.9903
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/dspsig/mail_archive/dsp.9903

## 1. [dsp] EVM RI kit arrived

From: Alberto di Bene <dibene@usa.net>
Date: 1 Mar 99 11:02:00 MET
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-8293-1999.03.01-04.03.34--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Glad to report that the EVM RI kit did make it across the Atlantic Ocean!
The kit arrived Saturday in good shape, thanks to the robust packaging done by
the TAPR guys (and gals, I suppose Dorothy is the person who actually did it).

Thanks again,
Alberto  I2PHD

_____
Get free e-mail and a permanent address at http://www.netaddress.com/?N=1

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 2. [dsp] Re: BPSK1200.ASM

From: Douglas Braun <doug.braun@intel.com>
Date: Sun, 28 Feb 1999 14:42:19 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-8312-1999.03.01-08.22.33--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 09:31 AM 2/28/99 -0500, I wrote:

>I think that BPSK1200.ASM is very old, and it is no longer compatible
>with the current BIOS.  If you want to try using the EVM with PSK digital
>satellites, you should use PSK.ASM.

I guess I should clarify this a little.  BPSK1200 is the original PSK modem
by Pawel Jalocha (SP9VRC).  PSK.ASM is my version of it.  I started with
the latest know version of SP9VRC's code from January 1996, and made
various minor changes, such as synchronizing it with the latest BIOS2 and SPY
versions, allowing configuration of left or right TX/RX channels, etc.  However,
all of the key demodulation algorithms are as Jawel wrote them.

The modem works quite well, but the DCD  could
still use a little work.  Jawel threw in a couple of different algorithms
for this, but some tweaking and optimization is still needed.
Right now, the DCD light goes on when the modem is slightly
mistuned, but it goes off when the tuning is right on.  Once you learn
to tune the radio by ear, this is not really a issue.

If anyone wants to start hacking the PSK code, let me know, and I can
give you an overview of its basic architecture.

Doug
N1OWU

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 3. [dsp] Re: BPSK1200.ASM

From: "Stacey E. Mills, M.D." <w4sm@cstone.net>
Date: Mon, 01 Mar 1999 10:45:46 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-8318-1999.03.01-09.47.26--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 02:42 PM 2/28/1999 -0500, Douglas Braun wrote:
>At 09:31 AM 2/28/99 -0500, I wrote:
[snip]
>The modem works quite well, but the DCD  could
>still use a little work.  Jawel threw in a couple of different algorithms
>for this, but some tweaking and optimization is still needed.
>Right now, the DCD light goes on when the modem is slightly
>mistuned, but it goes off when the tuning is right on.  Once you learn

>to tune the radio by ear, this is not really a issue.
>
>If anyone wants to start hacking the PSK code, let me know, and I can
>give you an overview of its basic architecture.

I've been using your PSK modem in the DSP56002EVM for several weeks now on
AO-16 and I'm very impressed with it.  Using only WISP32's keps-based
tuning, with no mic-button tuning feedback, I can hold 100% downlink
efficiency on virtually every pass, as long as the keps are fresh...very
nice modem.  In my experience it is considerably better than the DSP2232's
or the DSP93's 1200 baud PSK modems.

--

 _____________________________________________________________________
  Stacey E. Mills, W4SM    WWW:         http://www.cstone.net/~w4sm/ham1.html
   Charlottesville, VA     PGP key:     http://www.cstone.net/~w4sm/key.asc
 _____________________________________________________________________



---
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## 4. [dsp] Re: More EVM questions


From: Douglas Braun <doug.braun@intel.com>
Date: Mon, 01 Mar 1999 09:33:45 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-8329-1999.03.01-11.01.31--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain


At 09:40 AM 2/28/99 -0500, you wrote:
>I am trying to get my EVM to work with the WISP satellite communications
>program.
>
>In the Satellite Setup menu, what TNC type should be selected?  DSP-12 ?
>TNC-2 ?
>
>Should anything be entered in the TNC Mode?

I use "TNC-2".  The point is that the EVM modem does not need any
initialization, but there is no setting for "Dedicated KISS modem".  But
the "TNC-2" setting does no harm.

You can add external programs to WISP's "Programs" menu.  I made
a couple of .bat files that reset the modem and download the PSK or G3RUH modems.
I think you can get WISP to run one of them at the start of each pass, but I
haven't run WISP since last summer, and I am rather rusty...

Doug
N1OWU


---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org


## 5. [dsp] Re: BPSK1200.ASM


From: Douglas Braun <doug.braun@intel.com>
Date: Mon, 01 Mar 1999 12:03:10 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-8351-1999.03.01-13.33.04--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain


At 10:45 AM 3/1/99 -0500, you wrote:

>I've been using your PSK modem in the DSP56002EVM for several weeks now on
>AO-16 and I'm very impressed with it.  Using only WISP32's keps-based
>tuning, with no mic-button tuning feedback, I can hold 100% downlink
>efficiency on virtually every pass, as long as the keps are fresh...very
>nice modem.  In my experience it is considerably better than the DSP2232's
>or the DSP93's 1200 baud PSK modems.

The EVM is the only PSK modem I have ever used (it's why I got into the EVM in the
first place).  So I'm relieved to know I made a good choice :-).  But it would be
more fair to call it "Jawel's" instead of "my" modem...

Doug
N1OWU

---

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To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 6. [dsp] Re: More EVM questions (fwd)

From: Douglas Braun <doug.braun@intel.com>
Date: Mon, 01 Mar 1999 14:47:22 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-8356-1999.03.01-13.49.46--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 02:12 PM 3/1/99 -0500, you wrote:

>I finally got Wisp to run with the EVM last night. I copied W4SM's PB
>queue and that was about it. My signal strength was S-1 to S-4. It seems
>that whenever AO-16's sync pulse/tone is within a certain pitch the DCD
>LED will turn on. As soon as there is a data burst, the DCD turns off.

Yep it does that.  But remember that the DCD light is only for your convenience.
Data is demodulated whether or not the light is on.

There is a compile-time option to control when tuning up/down pulses are generated.
You should have it set to generate them all the time, not only when the DCD is on.
The only disadvantage is that when the modem is receiving only noise, it will randonly
tune the radio up and down.  Naturally, if somebody fixes the DCD algorithm, then
you can have it not generate tuning pulses when the DCD is off.

>I cranked the rx adj all the way clockwise (I hope this increased the
>sensitivity) in order to get this, though. Is there a receive gain setting
>within each of the modem .asm programs? Can I tweak this to optomize the
>downlink data capture?

In virtually all EVM programs, you can set the CODEC input and output gains.
Look at how the "ctrlcd" macro is used.
In fact, I have no potentiometers in my interface circuit, because I would
rather set the audio levels in software.

The best way to set the input gain is this:  Run the appropriate "scope" program (for the left or right channel).
Also run SPY.EXE on the PC.  Then you can see the actual audio level as a percentage
of the full 16-bit range.  Adjust the InputGain settings in scope1.asm (or scope2.asm)
until you get about 50% full-scale when tuned to a suitable signal.  Then put the
same InputGain setting in the actual modem program.

For the Tx gain, you can set it either by trial and error, or by knowing what P-P voltage level
your radio needs.

If you use more than one radio, you could make two versions of the modem program, each
with its own gain settings.

For sat stuff, I have an IC-821.  If you have one too, let me know and I will tell you
that gain settings I use.

Note that most modem programs have some form of software AGC, so the input
level is not too critical.  The important thing is not to overload the input.  The CODEC
has a lot of dynamic range- I have seen some modems work with the input level
40 or 50dB too low...

>I'm almost there. If I can improve my receive, this thing will be working
>just fine. My outside antenna is a Comet GP-6 145/435 dual band verticle
>that is 10' tall and up 20' on my chimney. I have a 50' length of 9913
>running to my shack and an SSB 435MHz preamp (I also have an SSB preamp
>for 145MHz). I have two 45' - 50' trees on my lot (both of which support
>my HF dipoles). I am using the audio output of my radio for the receive.
>If I change the setup so that I am getting the data right from the
>discriminator, will this improve my data capture?

I used a KLM circular-polarized beam (the small one).  But I was in an urban
environment with a lot of noise.  I had a preamp (GasFET), but due to all the
noise, it didn't make much difference.

As for the discriminator output, it will NOT work for AO-16.  AO-16 is SSB, not FM!
But for transmitting, you should use radio's the discriminator input, since
the transmissions are FM.

Doug
N1OWU

---
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## 7. [dsp] Re: More EVM questions

From: "Stacey E. Mills, M.D." <w4sm@cstone.net>
Date: Mon, 01 Mar 1999 15:01:36 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-8363-1999.03.01-14.03.19--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 09:33 AM 3/1/1999 -0500, Douglas Braun wrote:
>At 09:40 AM 2/28/99 -0500, you wrote:
>>I am trying to get my EVM to work with the WISP satellite communications
>>program.
>>
>>In the Satellite Setup menu, what TNC type should be selected?  DSP-12 ?
>>TNC-2 ?
>>
>>Should anything be entered in the TNC Mode?
>
>I use "TNC-2".  The point is that the EVM modem does not need any
>initialization, but there is no setting for "Dedicated KISS modem".  But
>the "TNC-2" setting does no harm.
>
>You can add external programs to WISP's "Programs" menu.  I made
>a couple of .bat files that reset the modem and download the PSK or G3RUH
modems.
>I think you can get WISP to run one of them at the start of each pass, but I
>haven't run WISP since last summer, and I am rather rusty...

I worked this out a few weeks ago and sent Steve Bible a detailed
description of what I did.  If anyone else would like a copy, I'll dig it
up.  Basically, my DSP56002 "wakes up" from the flash RAM as a 9600 baud
FSK modem for the 9600 baud sats.  Prior to running an AO-16 pass, WISP32
runs a program (DL.exe) which loads the 1200 baud PSK modem, and after the
pass it reloads the 9600 baud FSK modem.  Works like a charm.  There are a
couple of little "tricks" required along the way, which I can't currently
remember, but are in my notes.  WISP seems a bit "particular" about the
structure of the program to be run, but it works fine, once setup properly.

--

 _____________________________________________________________________
 Stacey E. Mills, M.D.  WEB:  http://www.med.virginia.edu/~sem2r/
 Charlottesville, VA    E-Mail: sem2r@virginia.edu (or) w4sm@cstone.net
                               Office Phone: 804-982-4406  Fax: 804-924-8767
 _____________________________________________________________________


---

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## 8. [dsp] Re: More EVM questions

From: Douglas Braun <doug.braun@intel.com>
Date: Mon, 01 Mar 1999 17:53:15 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-8380-1999.03.01-16.55.15--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 03:01 PM 3/1/99 -0500, you wrote:

>I worked this out a few weeks ago and sent Steve Bible a detailed
>description of what I did.  If anyone else would like a copy, I'll dig it
>up.  Basically, my DSP56002 "wakes up" from the flash RAM as a 9600 baud
>FSK modem for the 9600 baud sats.  Prior to running an AO-16 pass, WISP32
>runs a program (DL.exe) which loads the 1200 baud PSK modem, and after the
>pass it reloads the 9600 baud FSK modem.  Works like a charm.  There are a
>couple of little "tricks" required along the way, which I can't currently
>remember, but are in my notes.  WISP seems a bit "particular" about the
>structure of the program to be run, but it works fine, once setup properly.

The original AlefNull Leonid BIOS had a feature where several programs
could be stored in the EEPROM (actually they used an ordinary
EPROM), and a short command sequence could be sent to the EVM
to load and run one of them.  There was also a companion program
to DL (Called DLIB.EXE) that would help keep track of what was in
the EPROM.  I ripped this stuff out of the BIOS2.ASM code because
I did not feel like figuring out how to get it to work, and the normal
DL.EXE downloading procedure worked well enough for me.

But some industrious person could get it working again.  The
original AlefNull documentation gave an overview of it.

Doug
N1OWU

---
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## 9. [dsp] Alef Null status?

From: "Tim Baggett" <tbaggett@austintx.net>
Date: Mon, 1 Mar 1999 16:59:11 -0600
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-8383-1999.03.01-17.07.59--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Excellent thread guys. I'm learning a lot.

The Alef Null gang did some great work that much of today's 56002EVM
applications are derived from. Does anyone know the status of the Alef Null
group? Are they still a 'group'? Are they still developing for the DSP56002,
or did they more on to bigger, better things? Anyone know?

73,
Tim, AA5DF
Austin, TX

---
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## 10. [dsp] Re: Alef Null status?

From: Douglas Braun <doug.braun@intel.com>
Date: Mon, 01 Mar 1999 18:12:24 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-8386-1999.03.01-17.14.25--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The is stil an archive site in wooster.hut.fi, but everything there is at
least a couple of years old.  The last mail that I got from Pawel
was from somewhere in Switzerland, I think, so I guess most
of the people graduated and got jobs, etc.

Doug

At 04:59 PM 3/1/99 -0600, you wrote:
>
>
>Excellent thread guys. I'm learning a lot.
>
>The Alef Null gang did some great work that much of today's 56002EVM
>applications are derived from. Does anyone know the status of the Alef Null
>group? Are they still a 'group'? Are they still developing for the DSP56002,
>or did they more on to bigger, better things? Anyone know?
>
>73,
>Tim, AA5DF
>Austin, TX
>
>
>
>---
>You are currently subscribed to dsp as: doug.braun@intel.com
>To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 11. [dsp] Re: More EVM questions

From: "Mark L. Hammond" <hammond@camel.campbell.edu>
Date: Mon, 01 Mar 1999 18:53:25 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-8388-1999.03.01-17.55.01--lyris.dsp#tapr.org@lists.tapr.org>

Rendered body type: text/plain

>up.  Basically, my DSP56002 "wakes up" from the flash RAM as a 9600 baud
>FSK modem for the 9600 baud sats.  Prior to running an AO-16 pass, WISP32
>runs a program (DL.exe) which loads the 1200 baud PSK modem, and after the
>pass it reloads the 9600 baud FSK modem.  Works like a charm.  There are a
>couple of little "tricks" required along the way, which I can't currently
>remember, but are in my notes.  WISP seems a bit "particular" about the
>structure of the program to be run, but it works fine, once setup properly.

Yes, I do the same thing.  Actually, I have Wisp run a .bat file before
each satellite pass, so it loads the right modem code for the bird that is
coming up.  In addition, after the modem code is passed to the EVM (via
com1),  I have it launch FODTRACK for my doppler correction (runs on com4).
 FODTRACK runs in a DOS window during the pass, right along side Wisp.

Here a little trick was to add some lines to the c:\windows\system.ini file
(I carried this over all the way from my win3.1 days, I think ;)  While I
don't think ALL the lines are needed, it works...

[386Enh]
Com1AutoAssign=1
Com2AutoAssign=1
Com3AutoAssign=1
Com4AutoAssign=1
Com1Irq4Buffer=1024
Com2Irq3Buffer=1024
COMIRQSharing=true

Without these lines, Wisp fusses about ports not being available, as the
DOS window sorta seems to hold some "rights" to the com1 port, so that MSPE
says the port is already in use.

Anyhow, Wisp remains a great program, and EVM a great unit to interface
with it.

73,



Mark L. Hammond   [KC4EBR]

---
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## 12. [dsp] Re: Alef Null status?

From: John Melton - Sun UK - ENS <John.Melton@UK.Sun.COM>
Date: Tue, 2 Mar 1999 08:16:19 +0000 (GMT)
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-8480-1999.03.02-02.17.58--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

There is also an archive at ftp://ftp.funet.fi/pub/ham/dsp/alefn/dsp4/

The file doc.zip contains the documentation (2 postscript files) for the board
and the software.  I found the software descriptions good background for
understanding the modem designs.

-- John Melton  n6lyt/g0orx

> X-Sender: dbraun@cadev5.sc.intel.com
> To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
> Subject: [dsp] Re: Alef Null status?
> Mime-Version: 1.0
> List-Unsubscribe: <mailto:leave-dsp-3532K@lists.tapr.org>
> List-Software: Lyris Server version 3.0
> List-Subscribe: <mailto:subscribe-dsp@lists.tapr.org>
> List-Owner: <mailto:owner-dsp@lists.tapr.org>
> X-List-Host: Tucson Amateur Packet Radio <http://www.tapr.org>
> X-Message-Id: <4.1.19990301181024.00b25170@cadev5.sc.intel.com>
>
> The is stil an archive site in wooster.hut.fi, but everything there is at
> least a couple of years old.  The last mail that I got from Pawel
> was from somewhere in Switzerland, I think, so I guess most
> of the people graduated and got jobs, etc.
>
> Doug
>

> At 04:59 PM 3/1/99 -0600, you wrote:
> >
> >
> >Excellent thread guys. I'm learning a lot.
> >
> >The Alef Null gang did some great work that much of today's 56002EVM
> >applications are derived from. Does anyone know the status of the Alef Null
> >group? Are they still a 'group'? Are they still developing for the DSP56002,
> >or did they more on to bigger, better things? Anyone know?
> >
> >73,
> >Tim, AA5DF
> >Austin, TX
> >
> >
> >
> >---
> >You are currently subscribed to dsp as: doug.braun@intel.com
> >To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
>
>
> ---
> You are currently subscribed to dsp as: JOHN.MELTON@UK.SUN.COM
> To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
>


-- John Melton

```
        ((
      (|~~|
       `--'
       JAVA
```

---
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## 13. [dsp] Re: More Slow Success with EVM

From: Douglas Braun <doug.braun@intel.com>
Date: Wed, 03 Mar 1999 14:17:34 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Cc: dsp@lists.tapr.org
Message-ID: <LYR3532-8680-1999.03.03-13.20.02--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello,

My own hardware setup has two radios.  The VHF/UHF radio's RX audio is on the left channel,
and the HF radio's RX goes to the right channel.  But both transmitters are driven from
the left channel, and the right channel goes to a speaker.

Thus, the PSK.ASM  code that I distributed  does both Tx and Rx audio to the left
channel.  However, I may have wired the PTT and Up/Down connections differently
than the TAPR circuit.  (At the moment, I don't have my notes around.)

To change any of this in PSK.ASM, you need to change the
various symbols near the top of the file, i.e.:

TxRightChannel
RxRightChannel
PTTRightChannel
UpDownRightChannel.

For a while a had seperate radios like you, so I know what you mean.

If the file is read-only, just use the DOS "attrib" command to change it. ("attrib -R psk.asm")


At 12:14 PM 3/3/99 -0500, you wrote:
>Hi Doug.
>
>Last night, while tuning my 145MHz receiver by hand and using the same
>vertical antenna, I managed to copy more frames of data from AO-16. While
>the EVM was capturing data on Radio Port 2, I noticed that the PTT LED was
>flashing on Radio Port 1.
>

>I thought that in any given modem, the EVM controlled BOTH uplink and
>downlink with the same radio port. While this works out great for me
>(I have separate 145MHz and 435MHz transceivers) how do people with a
>dual-band transceiver deal with two EVM radio ports going into one radio?
>I say this because I tried to edit the PSK.ASM file and none of my text
>editors would touch it. Whenever I tried to save the edited file, the
>program would say that I was trying to rewrite a read-only file.
>
>Do the other modems, especially the G3RUH 9600 baud modem, perform in the
>same manner (i.e., transmit on one Radio Port and receive on another)? If
>so, it seems as though it shouldn't be a big deal to have mic-click tuning
>for both uplink and downlink...or am I over-simplifying this?
>
>Also, is PSK.ASM the only read-only file out there?

---
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## 14. [dsp] Software Radio Conference

From: Charles Brain <chbrain@dircon.co.uk>
Date: Fri, 05 Mar 1999 16:34:15 +0000
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-9103-1999.03.05-10.41.07--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

This URL maybe of interest to those of us interested in software radios

http://flattop.its.bldrdoc.gov/spectrum/98-art/present/p_index.html

- Charles

---
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## 15. [dsp] Signal Generating Program

From: Moe Wheatley <ae4jy@mindspring.com>
Date: Sun, 07 Mar 1999 09:15:40 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-9437-1999.03.07-08.19.04--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I cleaned up a program that I wrote awhile back to investigate the dsp
capabilities of the PC using VC++ and  Windows.  It is a small signal
generating program that produces CW, SSTV, and PSK31 test signals with
variable AWGN. It outputs to a soundcard or wave file.  The original intent
was to add a full HF simulator to the thing but I got sidetracked.  Unlike
most windows programs, all the source code is available.  There are C++
classes for reading/writing to the soundcard and wave files as well as an
assortment of FIR's, NCO's, noise sources, performance profiling functions,
etc.
It's a 32bit app and requires a math coprocessor since everything is done
with double precision floating point math.  Interestingly, the floating
point version was faster than doing it all with integers (The FIR filter
runs at about 60nSec/MAC on a 133MHzPentium/Win95). The program is scarce on
documentation but if there is any interest, I could provide a little more
explanation for some of the techniques used.  It's been an uphill battle
going from embedded C stuff to having to deal with C++, MFC, Windows API,
and buggy Microsoft tools.:>(

The url is:

http://www.mindspring.com/~ae4jy/projects.htm

73's
Moe, AE4JY

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 16. [dsp] Re: Signal Generating Program

From: Douglas Braun <doug.braun@intel.com>
Date: Sun, 07 Mar 1999 11:13:35 -0500

To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-9450-1999.03.07-10.15.46--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 09:15 AM 3/7/99 -0500, you wrote:
>I cleaned up a program that I wrote awhile back to investigate the dsp
>capabilities of the PC using VC++ and  Windows.  It is a small signal
>generating program that produces CW, SSTV, and PSK31 test signals with
>variable AWGN. It outputs to a soundcard or wave file.  The original intent
>was to add a full HF simulator to the thing but I got sidetracked.  Unlike
>most windows programs, all the source code is available.  There are C++
>classes for reading/writing to the soundcard and wave files as well as an
>assortment of FIR's, NCO's, noise sources, performance profiling functions,
>etc.
>It's a 32bit app and requires a math coprocessor since everything is done
>with double precision floating point math.  Interestingly, the floating
>point version was faster than doing it all with integers (The FIR filter
>runs at about 60nSec/MAC on a 133MHzPentium/Win95). The program is scarce on
>documentation but if there is any interest, I could provide a little more
>explanation for some of the techniques used.  It's been an uphill battle
>going from embedded C stuff to having to deal with C++, MFC, Windows API,
>and buggy Microsoft tools.:>(

Thanks for doing this, especially posting the source code!  Programming
for Windows  is arcane, and doing the soundcard is even more arcane!
Compared to those, doing DSP algorithms is a snap, I think.  Hopefully
this will encourage more people to write PC-based DSP applications.
I hope they will be smart like you and release the source code, like we
have come to expect for the dedicated DSP chips.

Yes, on recent x86 chips (at least the Intel ones :-)) the floating-point
math is at least as fast as fixed-point or integer math.  There is no
excuse not to use it, in my opinion.

Doug Braun
N1OWU

P.S.: Yes, I work for Intel, and I think everybody should use PCs for DSP Ham stuff,
so we sell even more and make even more money!!! :-)

---
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## 17. [dsp] Re: Signal Generating Program

From: Charles Brain <chbrain@dircon.co.uk>
Date: Sun, 07 Mar 1999 17:21:00 +0000
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-9477-1999.03.07-11.27.51--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Douglas Braun wrote:

> Yes, on recent x86 chips (at least the Intel ones :-)) the floating-point
> math is at least as fast as fixed-point or integer math.  There is no
> excuse not to use it, in my opinion.
>
> Doug Braun
> N1OWU

Yes and the there is a new version of the FREE Intel NSP library out, now supports the Pentium III.

http://www.intel.com/vtune/perflibst/spl/

BTW I have been updating my site as well.

http://www.chbrain.dircon.co.uk/

- Cheers Charles G4GUO

---
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To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 18. [dsp] Re: Signal Generating Program

From: Douglas Braun <doug.braun@intel.com>
Date: Sun, 07 Mar 1999 16:16:57 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>

Message-ID: <LYR3532-9510-1999.03.07-15.19.12--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I actually have no idea how useful Intel's (or AMD's) new vector instructions are for DSP.
If you have any experience or opinions, I'd love to hear them.

Doug Braun
N1OWU

At 05:21 PM 3/7/99 +0000, you wrote:

>
>Yes and the there is a new version of the FREE Intel NSP library out, now
>supports the Pentium III.
>
>http://www.intel.com/vtune/perflibst/spl/
>
>BTW I have been updating my site as well.
>
>http://www.chbrain.dircon.co.uk/
>

---
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To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 19. [dsp] Re: Signal Generating Program

From: Donald E Haselwood <dhaselwood@ij.net>
Date: Sun, 07 Mar 1999 18:02:42 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-9542-1999.03.07-20.03.20--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Moe,

Thanks for putting out the source.  Very helpful for those of us also
struggling up the C++/MS API/MFC hill (what a mess).

>...It's been an uphill battle
>going from embedded C stuff to having to deal with C++, MFC, Windows API,
>and buggy Microsoft tools.:>(

I found I had to make a directory /RES and move the BMP, ICO, RC2 files
into it, but other than that it compiles & runs just fine on MSVC 6.0 (the
analyze program needed /nodefaultlib:msvc to eliminate a warning about a
library conflict for the debug compile).

73's
Don, W4DH

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 20. [dsp] Re: Signal Generating Program

From: forrerj@peak.org (Johan Forrer)
Date: Sun, 07 Mar 1999 20:43:46 -0800
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-9563-1999.03.07-22.47.19--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Moe,

Thanks for this contribution -- a useful addition to
the toolbox. I'll look into it and if possible, see if I can
contribute something that can be used for HF channel
simulation.

73

Johan, KC7WW

>I cleaned up a program that I wrote awhile back to investigate the dsp
>capabilities of the PC using VC++ and  Windows.  It is a small signal

>generating program that produces CW, SSTV, and PSK31 test signals with
>variable AWGN. It outputs to a soundcard or wave file.  The original intent
>was to add a full HF simulator to the thing but I got sidetracked.  Unlike
>most windows programs, all the source code is available.  There are C++
>classes for reading/writing to the soundcard and wave files as well as an
>assortment of FIR's, NCO's, noise sources, performance profiling functions,
>etc.
>It's a 32bit app and requires a math coprocessor since everything is done
>with double precision floating point math.  Interestingly, the floating
>point version was faster than doing it all with integers (The FIR filter
>runs at about 60nSec/MAC on a 133MHzPentium/Win95). The program is scarce on
>documentation but if there is any interest, I could provide a little more
>explanation for some of the techniques used.  It's been an uphill battle
>going from embedded C stuff to having to deal with C++, MFC, Windows API,
>and buggy Microsoft tools.:>(
>
>The url is:
>
>http://www.mindspring.com/~ae4jy/projects.htm
>
>73's
>Moe, AE4JY
>
>
>---
>You are currently subscribed to dsp as: FORRERJ@PEAK.ORG
>To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
>
>
>


---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 21. [dsp] Re: Signal Generating Program

From: Charles Brain <chbrain@dircon.co.uk>
Date: Mon, 08 Mar 1999 09:16:35 +0000
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-9577-1999.03.08-03.44.01--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Douglas Braun wrote:
>
> I actually have no idea how useful Intel's (or AMD's) new vector instructions are for DSP.
> If you have any experience or opinions, I'd love to hear them.
>
> Doug Braun
> N1OWU
>

Other people have looked into this deeper than I have, but I believe they are basically fixed
point DSP instructions like MACs that use the floating point registers.

As far as the NSP library is concerned it has a whole host of transforms in there including
Wavelets. It is well documented. There are a number of DLLs for each processor type so when your
application starts, it pulls in the library appropriate to your processor. Also it uses the
most appropriate library for the wordsize you are using. The old set of libraries I had, had no
support for a 486 processor, although I believe from the error messages the one before did.

Having said all that I have only used the FFT libraries as FIR / IIR filters are quite easy to
hand code. The FFTW stuff is good as well although one has to be careful of the licence agreement,
but that should not effect its use for Amateur Radio Stuff.

I think also there are some speech recognition libraries, certainly Microsoft do some, but the file
sizes are huge! I though it might be nice to actually be able to talk to my radios, but I have not
done anything about it.

- Charles



---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 22. [dsp] Re: Signal Generating Program

From: "(SV2AGW)George Rossopoylos" <sv2agw@the.forthnet.gr>
Date: Mon, 8 Mar 1999 13:54:46 +0200
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-9580-1999.03.08-05.43.18--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

This is very interesting.
I spent a lot of horror days trying to deal with the multimedia API. Finally
i wrote two packet drivers for AGW Pcket Engine 1200b and 9k6b for packet.
It is very simple to use the api if you know what to do.
You need very few code lines.
Now i just use 8 buffers of 512 bytes each for receive and transmit.
Transmitting is done in real time. I compute the wave data on the fly while
previous buffers are playing by the multimedia API.
The most interesting thing is that receiving at the same frequency using
soundcard and a tnc, the soundcard outputs the packet much faster than the
external tnc.

My opinion is that since pc computing power is high it is possible to do
anything using a 20$ soundcard, instead of dedicated DSP chips and boards.
The only problem here is the soundcard manufacturer windows driver.
I found that the best solution is the creative PCI64 or even better PCI128.

Ufortunately i cannot publish my code source since its part of the whole
package but i can send to anyone the source code (part) that deals with the
windows multimedia API.

73
(SV2AGW)George Rossopoylos
sv2agw@the.forthnet.gr
http://www.forthnet.gr/sv2agw

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 23. [dsp] Re: Signal Generating Program

From: John Melton - Sun UK - ENS <John.Melton@UK.Sun.COM>
Date: Mon, 8 Mar 1999 12:08:56 +0000 (GMT)
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-9586-1999.03.08-06.10.52--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> The most interesting thing is that receiving at the same frequency using
> soundcard and a tnc, the soundcard outputs the packet much faster than the
> external tnc.
>

That is not too suprising as the TNC will receive the complete packet and then
queue it to be sent to the PC over an async serial connection,  so you have to
allow for the serialization time of the packet as well.

Using a sound card,  the equivalent to the serialization is a simple memory move
or even better a pointer move.

-- John Melton  n6lyt/g0orx

```
        ((
      (|~~|
       `--'
       JAVA
```

---
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To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 24. [dsp] Re: Signal Generating Program

From: Douglas Braun <doug.braun@intel.com>
Date: Mon, 08 Mar 1999 10:06:57 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-9611-1999.03.08-09.08.56--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 01:54 PM 3/8/99 +0200, you wrote:

>Unfortunately i cannot publish my code source since its part of the whole

>package but i can send to anyone the source code (part) that deals with the
>windows multimedia API.

Yes! Please publish (or at least send me). Some code that shows how
to deal with MAPI.  I tried writing a program that used the soundcard mixer,
using only Microsoft's MAPI documentation as a guide.  Frankly,
the design, and more importantly documentation, of MAPI is terrible.  It is made
worse by the fact that different soundcards support different
capabilities, and it is hard to know if your program will work with any given
sound hardware without actually trying it.

My own pathetic MAPI programming attempt can be seen (with source code) at:
http://www.erols.com/dougbert/software/setmix.zip.

Doug
N1OWU

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 25. [dsp] Re: Signal Generating Program

From: "Thomas Yamaguchi" <thomasey@hotmail.com>
Date: Mon, 08 Mar 1999 14:55:43 EST
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-9643-1999.03.08-11.57.40--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>Reply-To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
>From: "(SV2AGW)George Rossopoylos" <sv2agw@the.forthnet.gr>
>To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
>Subject: [dsp] Re: Signal Generating Program
>Date: Mon, 8 Mar 1999 13:54:46 +0200
>
>
>This is very interesting.
>I spent a lot of horror days trying to deal with the multimedia API.
Finally
>i wrote two packet drivers for AGW Pcket Engine 1200b and 9k6b for
packet.
>It is very simple to use the api if you know what to do.
>You need very few code lines.
>Now i just use 8 buffers of 512 bytes each for receive and transmit.
>Transmitting is done in real time. I compute the wave data on the fly
while
>previous buffers are playing by the multimedia API.
>The most interesting thing is that receiving at the same frequency
using
>soundcard and a tnc, the soundcard outputs the packet much faster than
the
>external tnc.
>
>My opinion is that since pc computing power is high it is possible to
do
>anything using a 20$ soundcard, instead of dedicated DSP chips and
boards.
>The only problem here is the soundcard manufacturer windows driver.
>I found that the best solution is the creative PCI64 or even better
PCI128.
>
>Ufortunately i cannot publish my code source since its part of the
whole
>package but i can send to anyone the source code (part) that deals with
the
>windows multimedia API.
>
>73
>(SV2AGW)George Rossopoylos
>sv2agw@the.forthnet.gr
>http://www.forthnet.gr/sv2agw
>
>
>---
>You are currently subscribed to dsp as: thomasey@hotmail.com
>To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
>
>

Hi !

I received your email and found it very interesting.
Could you send me the sourcecode!

Thanks Alot

Thomas

Thomas Eijiro Yamaguchi

I whish you a nice day!!

Check out my page :
http://www.geocities.com/Yosemite/Rapids/9489/

_____
Get Your Private, Free Email at http://www.hotmail.com

---
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To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 26. [dsp] Re: Signal Generating Program

From: "(SV2AGW)George Rossopoylos" <sv2agw@the.forthnet.gr>
Date: Tue, 9 Mar 1999 13:30:14 +0200
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-9800-1999.03.09-06.24.49--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Again

i will sort out the SoundCard code and i will inform you, after this
weekend.

My Opinionn is that using the Multimedia Api  a DSP programmer can do
miracles.
It has to deal only with his DSP code, ignoring all the hardware specific
problems. Selecting the right card and using such powerfull computers
(PENTIUM II etc). Think, still, that there is no need for external DSP
cards.
Selecting the right card i mean,  one with a good driver. The Soundcaard my
have capabilities that the windows driver doesnt support. This is the only
problem.

More later

73
(SV2AGW)George Rossopoylos
sv2agw@the.forthnet.gr
http://www.forthnet.gr/sv2agw

-----Original Message-----
From: Douglas Braun <doug.braun@intel.com>
To: TAPR DSP Special Interest Group <dsp@lists.tapr.org>
Date: Äåõôÿñá, 8 Ìáñôßïõ 1999 5:07 ìì
Subject: [dsp] Re: Signal Generating Program

>At 01:54 PM 3/8/99 +0200, you wrote:
>
>>Unfortunately i cannot publish my code source since its part of the whole
>>package but i can send to anyone the source code (part) that deals with
the
>>windows multimedia API.
>
>Yes! Please publish (or at least send me). Some code that shows how
>to deal with MAPI.  I tried writing a program that used the soundcard
mixer,

>using only Microsoft's MAPI documentation as a guide.  Frankly,
>the design, and more importantly documentation, of MAPI is terrible.  It is
made
>worse by the fact that different soundcards support different
>capabilities, and it is hard to know if your program will work with any
given
>sound hardware without actually trying it.
>
>My own pathetic MAPI programming attempt can be seen (with source code) at:
>http://www.erols.com/dougbert/software/setmix.zip.
>
>Doug
>N1OWU
>
>
>
>---
>You are currently subscribed to dsp as: SV2AGW@THE.FORTHNET.GR
>To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
>


---
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## 27. [dsp] Soundcard drivers

From: "Marcelo Puhl" <mark@plug-in.com.br>
Date: Tue, 9 Mar 1999 12:07:44 -2
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-9826-1999.03.09-09.08.36--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> ----------------------------------------------------------------------
>
> Subject: Re: Signal Generating Program
> From: "(SV2AGW)George Rossopoylos" <sv2agw@the.forthnet.gr>
> Date: Mon, 8 Mar 1999 13:54:46 +0200
> X-Message-Number: 2
>
>
> This is very interesting.
> I spent a lot of horror days trying to deal with the multimedia API. Finally i
> wrote two packet drivers for AGW Pcket Engine 1200b and 9k6b for packet. It is
> very simple to use the api if you know what to do. You need very few code
> lines. Now i just use 8 buffers of 512 bytes each for receive and transmit.
> Transmitting is done in real time. I compute the wave data on the fly while
> previous buffers are playing by the multimedia API. The most interesting thing
> is that receiving at the same frequency using soundcard and a tnc, the
> soundcard outputs the packet much faster than the external tnc.
>
> My opinion is that since pc computing power is high it is possible to do
> anything using a 20$ soundcard, instead of dedicated DSP chips and boards. The
> only problem here is the soundcard manufacturer windows driver. I found that
> the best solution is the creative PCI64 or even better PCI128.
>
> Ufortunately i cannot publish my code source since its part of the whole
> package but i can send to anyone the source code (part) that deals with the
> windows multimedia API.
>
> 73
> (SV2AGW)George Rossopoylos
> sv2agw@the.forthnet.gr
> http://www.forthnet.gr/sv2agw
>
> ----------------------------------------------------------------------
>

I haven't found no one 300 bps AFSK driver for soundcards.

Yes, I know, HF 300 bps is in the obsolescence way, but it is still
widely used.

Maybe someone could try writing a Pactor-II soundcard driver ?

---
73,
    Marcelo - PY3SS

---
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To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 28. [dsp] Re: Soundcard drivers

From: Douglas Braun <doug.braun@intel.com>
Date: Tue, 09 Mar 1999 11:13:14 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-9844-1999.03.09-10.15.22--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

An obvious problem is that that a soundcard does not provide any signal that can be used
for PTT.  I guess many programs use a serial port line for this.  I was wondering:
Is there a de-facto standard for the PTT signal?  It would be a drag to have
to mess with plugs and wiring every time you want to run a different program.

Also, is it possible to have two soundcards in a PC?  It would be nice to
be able to leave one permanently wired up to the radios, and have another
for all the "normal" uses (e.g. playing Quake).

Doug
N1OWU

---
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## 29. [dsp] Re: Soundcard drivers

From: Johan Forrer <forrerj@peak.org>
Date: Tue, 9 Mar 1999 08:26:16 -0800 (PST)
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-9848-1999.03.09-10.28.14--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Doug,


On Tue, 9 Mar 1999, Douglas Braun wrote:

> An obvious problem is that that a soundcard does not provide any signal that can be used
> for PTT.  I guess many programs use a serial port line for this.  I was wondering:
> Is there a de-facto standard for the PTT signal?  It would be a drag to have
> to mess with plugs and wiring every time you want to run a different program.

That is an old problem .... you may want to see what the PSK31 folks
are doing. I am planning on getting into some USB development which
may include a general-purpose interface for that kind of thing. But
that in a while.

>
> Also, is it possible to have two soundcards in a PC?  It would be nice to
> be able to leave one permanently wired up to the radios, and have another
> for all the "normal" uses (e.g. playing Quake).

Of course that is possible, but unfortunately a sound card eats
up so much resources that it is a struggle to integrate one at
times. This situation is changing rapidly... perhaps the next
generation of motherboards would allow some neat things for amateur radio
experimenters to play with.


Johan, KC7WW


---
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## 30. [dsp] Re: Soundcard drivers

From: "Frederick M. Spinner" <fspinner@hotmail.com>
Date: Tue, 09 Mar 1999 17:54:41 GMT
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-9854-1999.03.09-11.56.44--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>Is there a de-facto standard for the PTT signal?  It would be a drag to
have
>to mess with plugs and wiring every time you want to run a different

program.
>

This is a good idea.

>Also, is it possible to have two soundcards in a PC?  It would be nice
to
>be able to leave one permanently wired up to the radios, and have
another
>for all the "normal" uses (e.g. playing Quake).

It is at least theoretically possible, but since most soundcards take 2
IRQs and 1-2 DMAs it needs to be done _real carefully_!  (I.E. it is a
pain in the rear)  I imagine it would be much easier to do this in Linux
than in Win*

>
>Doug
>N1OWU

Fred Spinner (W0FMS)

_____
Get Your Private, Free Email at http://www.hotmail.com

---
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To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 31. [dsp] Re: Soundcard drivers

From: Ken Harris <kjh@lacasabonita.com>
Date: Tue, 9 Mar 1999 10:43:48 -0800
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-9862-1999.03.09-12.45.46--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Tue, 9 Mar 1999, Johan Forrer wrote:

> Doug,
>
>
> On Tue, 9 Mar 1999, Douglas Braun wrote:
>
> > An obvious problem is that that a soundcard does not provide any signal that can be used
> > for PTT.  I guess many programs use a serial port line for this.  I was wondering:
> > Is there a de-facto standard for the PTT signal?

        I'm no expert, but I know that Flexnet uses one channel (left?)
for the signal, and the other channel for PTT.  Of course, the PTT
signal is AC, so there a rectifier and a transitor involved.

---
Ken J. Harris, kjh@lacasabonita.com
____/)_____/)__/)____

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 32. [dsp] [psk31] PSK31EVM version 1.24

From: Eduardo Jacob <edu@kender.es>
Date: Tue, 09 Mar 1999 22:36:57 -0100
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-9895-1999.03.09-15.39.04--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>From Peter Martinez G3PLX

PSK31 for the DSP56002EVM has been updated with some performance improvements:

1. The QPSK receiver (the Viterbi decoder) has been changed to a "soft
decision" decoder, in which the actual received phase-shift values are used
to estimate what the transmitted signal was, rather than the received QPSK
data values. Tests on the bench show it to be twice as good as the previous
QPSK receiver. On-air tests show the new QPSK decoder is a useful
improvement under conditions of geomagnetic disturbance.

2. The squelch has been improved so that it will pull-in on traffic as well
as idles, and drop out on noise as well as the "tail carrier". This makes
operating much easier. The squelch toggle button has been replaced with a
Squelch On/Off switch.

3. The AFC has been improved so that it pulls the signal into perfect
tuning instantly as the squelch pulls-in, as well as the original slow
adjustment during the transmission. The AFC now defaults to ON as the
program starts.

The new version is 1.24 and can be downloaded as p31evw124.zip from

ftp://det.bi.ehu.es/pub/ham/psk31/p31evw124.zip
http://www.kender.es/~edu/download/p31evw124.zip

The PSK31 EVM (DOS) version and the PSK31 soundcard programs will be
updated to include these changes as soon as I get feedback from the users
of the EVM program. If you download p31evw124.zip, please send me your
thoughts on these latest changes.

73
Peter G3PLX

---
Eduardo EA2BAJ
DSP and HAM:  http://det.bi.ehu.es/~jtpjatae/ham.html
VHF PACKET: EA2BAJ @ EA2URV
PGP Key avlb: Send email w/subject: PGPKEY
fingerprint : D8 FA 54 49 F7 40 BA AA 09 1A 73 40 A4 26 ED BD

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 33. [dsp] Re: Signal Generating Program

From: "J. Keith McElveen" <jkm@McLean.Sparta.Com>
Date: Tue, 9 Mar 1999 16:41:45 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-9899-1999.03.09-15.44.02--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello All,
for what it is worth (not much), I whole heartedly agree that there is no
need for an external dsp card for most audio and comms processing.  I
routinely do IIR and FIR high/low/bandpass filters, LMS filters, spectrum
display, and EQ with our commercial DirectX-based software product - all in
real-time (plus latency of approx 2 sec)(caveat: the better the pentium, the
more/larger filters you can do, but a Pentium I 166 can do a lot when you
take advantage of the Intel libraries and MMX).  Also, my experience with
Microsoft DirectX says that you can ignore the specifics of the soundcard
API by using the default DirectShow driver - then the decision becomes
simply choosing a soundcard that uses a good chipset and careful layout (my
personal preference is a Yamaha chipset, but that isn't an endorsement).

regards,
keith mcelveen
mcelveen@ieee.org

>
> My Opinionn is that using the Multimedia Api  a DSP programmer can do
> miracles.
> It has to deal only with his DSP code, ignoring all the hardware specific
> problems. Selecting the right card and using such powerfull computers
> (PENTIUM II etc). Think, still, that there is no need for external DSP
> cards.
> Selecting the right card i mean,  one with a good driver. The
> Soundcaard my
> have capabilities that the windows driver doesnt support. This is the only
> problem.
>

---

You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 34. [dsp] Re: Signal Generating Program

From: Ken Harris <kjh@lacasabonita.com>
Date: Tue, 9 Mar 1999 14:10:51 -0800
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-9905-1999.03.09-16.12.51--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Sun, 7 Mar 1999, Charles Brain wrote:

> Douglas Braun wrote:
>
> Yes and the there is a new version of the FREE Intel NSP library out, now supports the Pentium III.
>
> http://www.intel.com/vtune/perflibst/spl/

Cool. I'm no expert, but it seems to me that would be cool
to digitize the IF of a radio and do a an FFT and display the
spectrum on a PC. I guess it would require a high speed A/D converter
and a high speed connection to the PC.

---
Ken J. Harris, kjh@lacasabonita.com
SP Productions, 12910 Culver Blvd, Ste 1, Los Angeles, CA 90066
phone: 310/821-9577 x 2083, fax: 310/821-5344
____/)_____/)__/)____

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 35. [dsp] Re: Signal Generating Program

From: Charles Brain <chbrain@dircon.co.uk>
Date: Tue, 09 Mar 1999 22:26:08 +0000
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-9908-1999.03.09-16.33.11--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Ken Harris wrote:
>
> Cool. I'm no expert, but it seems to me that would be cool
> to digitize the IF of a radio and do a an FFT and display the
> spectrum on a PC. I guess it would require a high speed A/D converter
> and a high speed connection to the PC.
>

The easiest thing to do is to download something like Spectrogram

http://www.monumental.com/rshorne/gram.html

and connect it to the audio output of the radio.

- Charles G4GUO

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 36. [dsp] matlab code for reading/writing wav file

From: Mark Dell <greatmachine@yahoo.com>
Date: Wed, 10 Mar 1999 07:38:35 -0800 (PST)
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-10030-1999.03.10-09.38.36--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Does anyone know the MATLAB code for reading a wav file
into a function, and writing the processed wavfile to disk?

_____
DO YOU YAHOO!?
Get your free @yahoo.com address at http://mail.yahoo.com

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 37. [dsp] RE: matlab code for reading/writing wav file

From: "Gabe Nemeth" <gabe@nortelnetworks.com>
Date: Wed, 10 Mar 1999 09:48:35 -0600
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-10032-1999.03.10-09.52.18--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I would also be interested in this. This would be an excellent posting if
available.

Gabe Nemeth.

> -----Original Message-----
> From: Mark Dell [SMTP:greatmachine@yahoo.com]
> Sent: Wednesday, March 10, 1999 10;39
> To:   TAPR DSP Special Interest Group
> Subject:      [dsp] matlab code for reading/writing wav file
>
> Does anyone know the MATLAB code for reading a wav file
> into a function, and writing the processed wavfile to disk?
>
>
>
>
> _____________________________________________________
> DO YOU YAHOO!?
> Get your free @yahoo.com address at http://mail.yahoo.com
>
>
> ---
> You are currently subscribed to dsp as: GABE@BNR.CA
> To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
>

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 38. [dsp] RE: matlab code for reading/writing wav file

From: "Thompson, Mark (mthomp03)" <MTHOMP03@harris.com>
Date: Wed, 10 Mar 1999 10:55:57 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-10034-1999.03.10-09.58.55--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Will wavread and wavwrite work for you?

Mark Thompson

> -----Original Message-----
> From: Gabe Nemeth [SMTP:gabe@nortelnetworks.com]
> Sent: Wednesday, March 10, 1999 10:49 AM
> To:   TAPR DSP Special Interest Group
> Subject:      [dsp] RE: matlab code for reading/writing wav file
>
> I would also be interested in this. This would be an excellent posting if
> available.
>
> Gabe Nemeth.
>
> > -----Original Message-----
> > From:       Mark Dell [SMTP:greatmachine@yahoo.com]
> > Sent:       Wednesday, March 10, 1999 10;39
> > To: TAPR DSP Special Interest Group
> > Subject:    [dsp] matlab code for reading/writing wav file
> >
> > Does anyone know the MATLAB code for reading a wav file
> > into a function, and writing the processed wavfile to disk?
> >
> >
> >
> >
> > _____________________________________________________

> > DO YOU YAHOO!?
> > Get your free @yahoo.com address at http://mail.yahoo.com
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> >
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---
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## 39. [dsp] RE: matlab code for reading/writing wav file

From: "Garth W. Milne" <milne@firga.sun.ac.za>
Date: Wed, 10 Mar 1999 18:24:06 +0200
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-10039-1999.03.10-10.26.53--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

wavread is the matlab function that does this.
There is also a wavwrite.
Garth Milne

> -----Original Message-----
> From: bounce-dsp-2948@lists.tapr.org
> [mailto:bounce-dsp-2948@lists.tapr.org]On Behalf Of Gabe Nemeth
> Sent: Wednesday, March 10, 1999 5:49 PM
> To: TAPR DSP Special Interest Group
> Subject: [dsp] RE: matlab code for reading/writing wav file
>
>
> I would also be interested in this. This would be an excellent posting if
> available.
>
> Gabe Nemeth.
>
> > -----Original Message-----
> > From:       Mark Dell [SMTP:greatmachine@yahoo.com]
> > Sent:       Wednesday, March 10, 1999 10;39
> > To: TAPR DSP Special Interest Group
> > Subject:    [dsp] matlab code for reading/writing wav file
> >
> > Does anyone know the MATLAB code for reading a wav file
> > into a function, and writing the processed wavfile to disk?
> >
> >
> >
> >
> > _____________________________________________________
> > DO YOU YAHOO!?
> > Get your free @yahoo.com address at http://mail.yahoo.com
> >
> >
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>
> ---
> You are currently subscribed to dsp as: MILNE@FIRGA.SUN.AC.ZA
> To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
>

---
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To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 40. [dsp] Re: matlab code for reading/writing wav file

From: "Tim Baggett" <tbaggett@austintx.net>
Date: Wed, 10 Mar 1999 10:27:43 -0600
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-10041-1999.03.10-10.37.05--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Mark,

I don't know if this is exactly what you were looking for, but the built-in
commands are

wavread

wavwrite

should be able to pull up the help docs on these commands. They work great
on Version 4.2.

73,
Tim

---
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## 41. [dsp] Source code for MMAPI application

From: Alberto di Bene <dibene@usa.net>
Date: 11 Mar 99 11:25:26 MET
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Cc: sv2agw@the.forthnet.gr
Message-ID: <LYR3532-10190-1999.03.11-04.27.35--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>Unfortunately i cannot publish my code source since its part of the whole
>package but i can send to anyone the source code (part) that deals with the
>windows multimedia API.

George,
   thanks for your offer. Why don't you write a short tutorial (just a page or
so) on the very basics of using the MMAPI ? Then you could put it together
with the code snippet somewhere on Internet. I am sure many could benefit from
it (myself for one).

73,
Alberto  I2PHD

_____
Get free e-mail and a permanent address at http://www.netaddress.com/?N=1

---
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## 42. [dsp] Re: Soundcard drivers

From: Alberto di Bene <dibene@usa.net>
Date: 11 Mar 99 12:18:12 MET
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-10194-1999.03.11-05.20.16--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>
> Also, is it possible to have two soundcards in a PC?  It would be nice to
> be able to leave one permanently wired up to the radios, and have another
> for all the "normal" uses (e.g. playing Quake).

Yes, it is. In my PC I have a Vibra chip on the motherboard, and an AWE32 on
the bus. But the problem is that many softwares (e.g. the IZ8BLY Hellschreiber
decoder, the G3PLX PSK31 pgm, etc.) don't allow you to choose which card to
use, and generally, thanks to Murphy, they make the wrong choice. I think they
pick up the first audio device offered by Windows. I haven't been able to
persuade Windows to reverse its list... any suggestions on this ?

Alberto,  I2PHD

_____
Get free e-mail and a permanent address at http://www.netaddress.com/?N=1

---
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## 43. [dsp] Re: Signal Generating Program

From: Thomas Sailer <sailer@ife.ee.ethz.ch>
Date: Thu, 11 Mar 1999 16:53:59 +0100
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-10222-1999.03.11-09.56.07--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

"J. Keith McElveen" wrote:

> routinely do IIR and FIR high/low/bandpass filters, LMS filters, spectrum
> display, and EQ with our commercial DirectX-based software product - all in
> real-time (plus latency of approx 2 sec)(caveat: the better the pentium, the

But 2s latency is quite unacceptable for many applications. For things
like
VHF packet radio, HF RTTY/Amtor/Pactor, it has to be less than 20ms.
And I thought direct sound was all about reducing latency...

Tom

---
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## 44. [dsp] C++ src classes for PSK availables!!

From: Eduardo Jacob <jtpjatae@bicc00.bi.ehu.es>
Date: Fri, 12 Mar 1999 12:49:59 +0100
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-10380-1999.03.12-05.51.45--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

With help from G3PLX, Wayne Wright W5XD has put together some C++ classes
that implement the DSP algorithms invented by Peter for PSK. He has also
done a DOS test program that demonstrates their use. The file is available
in a zip file  of 43KB that's available here:

ftp://det.bi.ehu.es/pub/ham/psk31/pskcppsrc.zip

and

http://www.kender.es/~edu/download/pskcppsrc.zip

        Regards

        Eduardo
---
Eduardo EA2BAJ
DSP and HAM:   http://det.bi.ehu.es/~jtpjatae/ham.html
VHF PACKET: EA2BAJ @ EA2URV
PGP Key avlb: Send email w/subject: PGPKEY
fingerprint : D8 FA 54 49 F7 40 BA AA 09 1A 73 40 A4 26 ED BD

---
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To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 45. [dsp] PSK31 for the SCS-PTC II

From: Eduardo Jacob <jtpjatae@bicc00.bi.ehu.es>
Date: Fri, 12 Mar 1999 12:49:47 +0100
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-10379-1999.03.12-05.51.32--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

A new version of the firmware for the nice SCS PTC-II unit is available at
their homepage.

http://www.scs-ptc.com

as

http://www.scs-pc.com/download/ptcv27.exe

But what does version 2.7 add ? a PSK31 modem !!

        Eduardo/EA2BAJ

```
-------------------------------------------------------
Eduardo EA2BAJ
DSP and HAM:   http://det.bi.ehu.es/~jtpjatae/ham.html
VHF PACKET: EA2BAJ @ EA2URV
PGP Key avlb: Send email w/subject: PGPKEY
fingerprint : D8 FA 54 49 F7 40 BA AA 09 1A 73 40 A4 26 ED BD

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
```

## 46. [dsp] PSK31 for the SCS-PTC II

```
From: Eduardo Jacob <jtpjatae@bicc00.bi.ehu.es>
Date: Fri, 12 Mar 1999 18:58:23 +0100
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-10420-1999.03.12-12.04.01--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain
```

```
I intended to say that the PTC-II firmware that adds PSK31 is at:

http://www.scs-ptc.com/download/ptcv27.exe

        Eduardo/EA2BAJ


-------------------------------------------------------
Eduardo EA2BAJ
DSP and HAM:   http://det.bi.ehu.es/~jtpjatae/ham.html
VHF PACKET: EA2BAJ @ EA2URV
PGP Key avlb: Send email w/subject: PGPKEY
fingerprint : D8 FA 54 49 F7 40 BA AA 09 1A 73 40 A4 26 ED BD

---
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```

## 47. [dsp] Re: Signal Generating Program

```
From: "J. Keith McElveen" <jkm@McLean.Sparta.Com>
Date: Sun, 14 Mar 1999 15:07:13 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-10669-1999.03.14-14.09.47--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain
```

```
It is, but.... I typically do fairly intense processing with filters that
are longer than those needed for comms.  But even then, I'd agree that the
latency isn't what it should be.  Have you looked at the forth coming
"kernal streaming" stuff (which is supposed to be "the way" to do minimum
latency applications)?

Keith


> And I thought direct sound was all about reducing latency...
>
> Tom


---
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```

## 48. [dsp] Just starting out with 560002

```
From: "Clark, John" <john.clark@state.co.us>
Date: Sun, 14 Mar 1999 13:34:11 -0700
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-10671-1999.03.14-14.33.47--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain
```

```
OK, I've got the box built, ran the evmtest program. All was well.

I thought I would start with the  QRMQRN program.

Alas, I need to assemble the .AMS giving a CLD, but where is the
assembler?

I got two disks with the DSP card from TAPR, DSP560002EVM Test Files,
and EVM56002 ver 1.93.
```

Can anyone offer some guidance?


John
N0URE

---
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To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 49. [dsp] Re: Just starting out with 560002

From: "Steven R. Bible" <srbible@gate.net>
Date: Sun, 14 Mar 1999 16:16:46 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Cc: john.clark@state.co.us
Message-ID: <LYR3532-10675-1999.03.14-15.18.41--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

John, take a look at the Draft Operations Guide available at

    ftp://ftp.tapr.org/dsp/evmri/

it's in PDF.

Hopefully this will answer many of your questions.  This is an updated
version (Mar. 7th).  Please let me know what it's lacking and I'll write it
in.

- Steve N7HPR


At 01:34 PM 3/14/99 -0700, you wrote:
>OK, I've got the box built, ran the evmtest program. All was well.
>
>I thought I would start with the  QRMQRN program.
>
>Alas, I need to assemble the .AMS giving a CLD, but where is the
>assembler?
>
>I got two disks with the DSP card from TAPR, DSP560002EVM Test Files,
>and EVM56002 ver 1.93.
>
>Can anyone offer some guidance?
>
>
>John
>N0URE
>
>---
>You are currently subscribed to dsp as: SRBIBLE@GATE.NET
>To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
>
>
>
- Steve, N7HPR
  n7hpr@tapr.org
  n7hpr@amsat.org


---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
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## 50. [dsp] Re: Just starting out with 560002

From: TBaggett@AustinTX.net (Tim Baggett)
Date: Sun, 14 Mar 1999 22:53:48 -0600
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-10725-1999.03.14-22.28.08--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>
>Alas, I need to assemble the .AMS giving a CLD, but where is the
>assembler?
>
>I got two disks with the DSP card from TAPR, DSP560002EVM Test Files,
>and EVM56002 ver 1.93.

Hmmm, I'm not sure if version 1.93 of the DSP56002EVM distribution disks is
the one or not, but Motorola shipped a batch of EVMs late 1997 that did not
contain the assemblers, etc. You can probably search the TAPR DSP sig
archives for late January and early February 1998 and find more discussions
on the case of the EVMs with the missing tools.

Anyhow, I took it on to create a new distribution disk for the 56002EVM as a
result. i believe it is still being shipped with their kits. You can
download the self extracting archive at
http://www.mot.com/pub/SPS/DSP/helpline/evm/evm28.exe

For a description of the download, the main page is at:
http://www.mot.com/SPS/DSP/software/other.html#56000

Note that this download does include the DOS GUI version of the Domain
Technologies debugger. However, it does not contain the Windows version of
the debugger. This is due to the fact that the EVMs did ship with the
Windows version of the debugger, and motorola does not have authorization to
freely distribute the Domain Technologies Windows 95/98 GUI debugger. I only
received permission to distribute the DOs debugger as it is used for the EVM
self test.

For the Domain Technologies tools, visit their web site at
http://www.domaintec.com/

73,
Tim, AA5DF
Austin, TX

---
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## 51. [dsp] Re: Just starting out with 560002

From: Douglas Braun <doug.braun@intel.com>
Date: Mon, 15 Mar 1999 10:58:00 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-10782-1999.03.15-10.09.31--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I few months ago I finally switched from the DOS version
of the assembler to the 32-bit Windows version, and I
was glad I did.  I don't know what the most recent EVMs
were shipped with, but if you have only the DOS version
(and you are running Win95/98/NT, of course) you
really ought to go to the Motorola Web site and the the newest version.

Doug Braun
N1OWU

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 52. [dsp] PLXBOOT and PSK.ASM

From: Fernando Mederos <fmederos@adinet.com.uy>
Date: Mon, 15 Mar 1999 15:02:53 -0300
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-10813-1999.03.15-12.06.15--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi,
	I am trying to load N1OWU's version of Jalocha's BPSK1200.ASM as he likes
to call it (or simply PSK.ASM), with G3PLX's PLXBOOT. G3RUH.ASM and
FSK1200.ASM works well but with PSK.ASM the loader replies: 'more than 255
sections in the file'.
	Has anybody else got this too?

	It seems to me that there are some procedures missing from the Pascal
listing included in the distributed plxboot.zip file.

	Any ideas?...

	73 de Fernando, CX6DD

---
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To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 53. [dsp] Re: PLXBOOT and PSK.ASM

From: Douglas Braun <doug.braun@intel.com>
Date: Mon, 15 Mar 1999 13:22:17 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-10819-1999.03.15-12.24.31--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 03:02 PM 3/15/99 -0300, you wrote:
>Hi,
>       I am trying to load N1OWU's version of Jalocha's BPSK1200.ASM as he likes
>to call it (or simply PSK.ASM), with G3PLX's PLXBOOT. G3RUH.ASM and
>FSK1200.ASM works well but with PSK.ASM the loader replies: 'more than 255
>sections in the file'.
>       Has anybody else got this too?

I haven't ever used PLXBOOT, so I can't answer.  But possibly Plxboot
reserves different sections of memory than the Leonid BIOS.
Also, programs like PSK.ASM depend on Leonid functions being
present.  I am not sure if PLXBOOT can load Leonid itself, since it
would have to overwrite critcial interrupt locations in low memory.

Possibly the best solution would be to add code to Leonid (BIOS2.ASM)
to emulate PLXBOOT.  Then your EVM could load both Leonid
and PLXBOOT-based programs.

I think that PLXBOOT is simpler than Leonid.  Leonid provides
routines to support the CODEC, the serial port, etc., while PLXBOOT
simply loads the application program into memory, and expects
it to manage the hardware.

Either approach has its own technical strengths and weaknesses.

Doug Braun
N1OWU

---
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To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 54. [dsp] Re: Just starting out with 560002

From: "Clark, John" <john.clark@state.co.us>
Date: Mon, 15 Mar 1999 20:46:14 -0700
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-10912-1999.03.15-21.45.54--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Doug,

I've got the Windows version of the Debugger, but where can I find the
Windows version of the Assembler?

|  -----Original Message-----
|  From: Douglas Braun [mailto:doug.braun@intel.com]
|  Sent: Monday, March 15, 1999 8:58 AM
|  To: TAPR DSP Special Interest Group
|  Subject: [dsp] Re: Just starting out with 560002
|
|
|  I few months ago I finally switched from the DOS version
|  of the assembler to the 32-bit Windows version, and I
|  was glad I did.  I don't know what the most recent EVMs
|  were shipped with, but if you have only the DOS version
|  (and you are running Win95/98/NT, of course) you
|  really ought to go to the Motorola Web site and the the
|  newest version.
|
|  Doug Braun
|  N1OWU
|
|  ---
|  You are currently subscribed to dsp as: JOHN.CLARK@STATE.CO.US
|  To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
|

|

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You are currently subscribed to dsp as: lyris.dsp@tapr.org
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## 55. [dsp] Linux tools for 56K EVM.

From: forrerj@peak.org (Johan Forrer)
Date: Mon, 15 Mar 1999 20:29:04 -0800
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-10917-1999.03.15-22.33.04--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi all Linux fans,

Thought I'd share some news on using Linux for as an EVM development
platform. Check this out.

1) I note that the Windows-based EVM dubugger (EVM56KW)
runs quite nicely under WINE. Not all dialog boxes are 100%, but
most other command/data windows looking good. Perhaps
the very latest version of WINE might even be better ?

2) The DOS debugger and tool chain  works 100% under DOSEMU,
but guess you know about that ?

3) I tried the Windows version for PSK31 and MTHELL under WINE,
but  seems the COM port is not working correctly. May be something
that one can configure.

4) EVMTOR and EVMPACTOR (from my web page), both runs just
fine under DOSEMU.

5) C-BPSK from VE2IQ runs OK on receive. Do not try it on
transmit -- perhaps a 400 MHz Pentium, maybe?

My system is a modest K6/233, 64M RAM, and kernel 2.2.1.

Enjoy.

Johan, KC7WW

---
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## 56. [dsp] Step 2

From: "Clark, John" <john.clark@state.co.us>
Date: Mon, 15 Mar 1999 22:13:31 -0700
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-10922-1999.03.15-23.13.10--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Thanks to Steven, the new Operations Guide and Doug I've got all the
files I need.

Step 2 --- Doug I'm trying to use QRMQRN.

I did the ASM and LOADs (BIOS2 & QRMQRN) in the Debugger, lights
flickered, COP is now blinking, but--
I'm feeding audio in the IN but I don't hear anything from the OUT or
Head Phone?

I'm using the jacks right on the card.  Used a Line Level sig, then full
speaker level,
still nothing.

I need more help.

I'll read the QRMQRN source tonight.

John

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 57. [dsp] Re: Just starting out with 560002

From: TBaggett@AustinTX.net (Tim Baggett)
Date: Mon, 15 Mar 1999 23:59:07 -0600
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-10925-1999.03.15-23.33.16--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>
>I've got the Windows version of the Debugger, but where can I find the
>Windows version of the Assembler?

None exists (at least official fom Motorola as of a few months ago)

73,
tim

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 58. [dsp] WIN95/98 Multimedia API For DSP

From: "(SV2AGW)George Rossopoylos" <sv2agw@the.forthnet.gr>
Date: Tue, 16 Mar 1999 08:54:10 +0200
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-10941-1999.03.16-00.40.48--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi

the source code with a lot of comments on how to use Multimedia API for DSP
(RX & TX) is
in http://www.forthnet.gr/sv2agw/colin/agwmapi.zip

any questions pse to this sig.

73
(SV2AGW)George Rossopoylos
sv2agw@the.forthnet.gr
http://www.forthnet.gr/sv2agw

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 59. [dsp] PLXBOOT and PSK.ASM

From: Fernando Mederos <fmederos@adinet.com.uy>
Date: Tue, 16 Mar 1999 11:16:32 -0300
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-10962-1999.03.16-08.19.59--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Doug,
        Yes, I load Leonid every time I use any of the modems. PLXBOOT can load
BIOS2.CLD, G3RUH.CLD, FSK1200.CLD and others with no problem, the matter is
PSK.CLD.

>But possibly Plxboot
reserves different sections of memory than the Leonid BIOS.

        I will check PSK.ASM (or better PSK.LST) to see if it uses the beginning
of the second 16K half of RAM -where PLXBOOT locates itself at boot time-.
I don't think this will be the problem because it is the PC loader program
that rejects PSK.CLD, not the boot-loader running on the EVM.

>I am not sure if PLXBOOT can load Leonid itself, since it
would have to overwrite critcial interrupt locations in low memory.

        Yes it can, I've been doing this for a while now.

        I thought of writing a new program to send .CLD files to the EVM running
PLXBOOT and this is why I took a look at the Pascal listing. But I found
some mysterious procedures like loadEvm( , )    wich are not defined there.

        Now, where can I find a description of the .CLD file format?

Thanks,
73 de Fernando, CX6DD

---
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To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 60. [dsp] Re: Step 2

From: Douglas Braun <doug.braun@intel.com>
Date: Tue, 16 Mar 1999 10:31:16 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-10974-1999.03.16-09.33.41--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I'm away from home on a business trip, so I can't look at the code right now.

But you should of course check the left-vs-right channel usage
for both input and output. They may not be the same.

Also, there is a compilation switch in the code that determines whether
QRM or QRN operation is performed. The QRM (auto-notch) function
works well, but the noise reduction could use some tweaking,
in my opinion.

There is also another program, called fft-cut.asm, I think, that
does noise reduction by spectral subtraction. This is definitely
worth trying, but it has a lot of parameters that need to be adjusted
to provide optimum operation.

Bug me again in a week if it still does not work.
Also, if anyone gets this program tuned to work better than the distribution
version, send me a copy and I will update the distribution.

Doug
N1OWU

At 10:13 PM 3/15/99 -0700, you wrote:

>Step 2 --- Doug I'm trying to use QRMQRN.
>
>I did the ASM and LOADs (BIOS2 & QRMQRN) in the Debugger, lights
>flickered, COP is now blinking, but--
>I'm feeding audio in the IN but I don't hear anything from the OUT or
>Head Phone?
>
>I'm using the jacks right on the card. Used a Line Level sig, then full
>speaker level,
>still nothing.
>

---
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To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 61. [dsp] Re: Just starting out with 560002

From: Douglas Braun <doug.braun@intel.com>
Date: Tue, 16 Mar 1999 10:32:34 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-10975-1999.03.16-09.34.53--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 11:59 PM 3/15/99 -0600, you wrote:
>>
>>I've got the Windows version of the Debugger, but where can I find the
>>Windows version of the Assembler?
>
>None exists (at least official fom Motorola as of a few months ago)
>
It runs fine for me... I mean the Win32 command-line version.

Doug

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 62. [dsp] Re: PLXBOOT and PSK.ASM

From: Douglas Braun <doug.braun@intel.com>
Date: Tue, 16 Mar 1999 10:41:36 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-10976-1999.03.16-09.43.53--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 11:16 AM 3/16/99 -0300, you wrote:

>       Yes, I load Leonid every time I use any of the modems. PLXBOOT can load
>BIOS2.CLD, G3RUH.CLD, FSK1200.CLD and others with no problem, the matter is
>PSK.CLD.

It's nice to know that it (generally) works.

>       I will check PSK.ASM (or better PSK.LST) to see if it uses the beginning
>of the second 16K half of RAM -where PLXBOOT locates itself at boot time-.

unlike the original Leonid BIOS, BIOS2 gives the application the biggest
possible contiguous chunk of memory possible.  When porting applications
between BIOS,BIOS2, and PLXBOOT, you have to be careful that
things end up in the right place in memory.  It can be confusing.

>
>       Now, where can I find a description of the .CLD file format?

At one point, Motorola's web site had some C source code for
manipulating CLD files.  I think they are similar to other object
file formats such as ELF.  I have the code somewhere, in case it is no
longer available from Motorola.

Doug
N1OWU

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 63. [dsp] Re: Step 2

From: Fernando Mederos <fmederos@adinet.com.uy>
Date: Tue, 16 Mar 1999 16:33:41 -0300
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-11008-1999.03.16-13.39.10--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

John,

>I'm feeding audio in the IN but I don't hear anything from the OUT or
>Head Phone?

        I am at home so I can look at the source:
        The lines I had to edit according to my channel settings were:

```
defnotch        equ     0               ;for noise filter
.
.
.
; initialize codec
; fs = 16 kHz, line input, only headphones output, 10dB input gain and ;
20dB output attenuation
        ctrlcd  1,r2,buflen,MIC,10.0,10.0,HEADP,20.0,20.0
.
.
```

        With these settings I take audio from my IC-821H (fixed level) and my
headphones are well driven from the EVM's Headphones output.

        73 de Fernando CX6DD

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 64. [dsp] Re: Step 2

From: "Clark, John" <john.clark@state.co.us>
Date: Wed, 17 Mar 1999 10:45:01 -0700
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-11146-1999.03.17-11.44.43--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Doug, I tested FEEDTHRU and DEMO - they work OK.

I can see in QRMQRN that just after "wait for one sample"
that there are three lines commented out.
They appear to be the instructions common to FEEDTHRU
that will SUM Left & Right.

I will re-activate them and test again tonight.

Where should I look for fft-cut.asm ?

John
N0URE

|-----Original Message-----
|From: Douglas Braun [mailto:doug.braun@intel.com]
|Sent: Tuesday, March 16, 1999 8:31 AM
|To: TAPR DSP Special Interest Group
|Subject: [dsp] Re: Step 2
|
|
|I'm away from home on a business trip, so I can't look at the
|code right now.
|
|But you should of course check the left-vs-right channel usage
|for both input and output.  They may not be the same.
|
|Also, there is a compilation switch in the code that determines whether
|QRM or QRN operation is performed.  The QRM (auto-notch) function
|works well, but the noise reduction could use some tweaking,
|in my opinion.
|
|There is also another program, called fft-cut.asm, I think, that
|does noise reduction by spectral subtraction.  This is definitely
|worth trying, but it has a lot of parameters that need to be adjusted
|to provide optimum operation.
|
|Bug me again in a week if it still does not work.
|Also, if anyone gets this program tuned to work better than
|the distribution
|version, send me a copy and I will update the distribution.
|
|Doug
|N1OWU
|
|At 10:13 PM 3/15/99 -0700, you wrote:
|
|>Step 2 --- Doug I'm trying to use QRMQRN.
|>
|>I did the ASM and LOADs (BIOS2 & QRMQRN) in the Debugger, lights
|>flickered, COP is now blinking, but--
|>I'm feeding audio in the IN but I don't hear anything from the OUT or
|>Head Phone?
|>
|>I'm using the jacks right on the card.  Used a Line Level
|sig, then full
|>speaker level,
|>still nothing.
|>
|
|
|---
|You are currently subscribed to dsp as: JOHN.CLARK@STATE.CO.US
|To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
|
|

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 65. [dsp] Re: Step 2

From: Douglas Braun <doug.braun@intel.com>
Date: Wed, 17 Mar 1999 10:18:11 -0800
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-11154-1999.03.17-12.20.39--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 10:45 AM 3/17/99 -0700, you wrote:

>Where should I look for fft-cut.asm ?

It's somewhere out there in cyber-space...
Probably the EVM related links on the TAPR Web site
will lead to it.

If you cannot find it, I can send you a copy when I get home next week.
It is part of a package that includes a PC program that does a real-time
spectrum display (sort of like the gram.exe program).

Doug

---
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To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 66. [dsp] Re: Step 2

From: "Clark, John" <john.clark@state.co.us>
Date: Wed, 17 Mar 1999 20:54:10 -0700
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-11223-1999.03.17-21.53.54--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I'm still looking for fft-cut.

Attached is the qrmqrn I modified -- still doesn't work. Time for me to
read
all of "Leonid". Mods marked 'jwc'.

| -----Original Message-----
| From: Douglas Braun [mailto:doug.braun@intel.com]
| Sent: Wednesday, March 17, 1999 11:18 AM
| To: TAPR DSP Special Interest Group
| Subject: [dsp] Re: Step 2
|
|
| At 10:45 AM 3/17/99 -0700, you wrote:
|
| >Where should I look for fft-cut.asm ?
|
| It's somewhere out there in cyber-space...
| Probably the EVM related links on the TAPR Web site
| will lead to it.
|
| If you cannot find it, I can send you a copy when I get home
| next week.
| It is part of a package that includes a PC program that does
| a real-time
| spectrum display (sort of like the gram.exe program).
|
| Doug
|
|
| ---
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| To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
|
|
[Attachment: QRMQRN.ASM; application/octet-stream; 6,121 bytes]

## 67. [dsp] Re: Step 2

From: Douglas Braun <doug.braun@intel.com>
Date: Thu, 18 Mar 1999 08:01:35 -0800
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-11273-1999.03.18-10.03.58--lyris.dsp#tapr.org@lists.tapr.org>

Rendered body type: text/plain

Hello,

I see one mistake.  You must ALWAYS increment register r2
exactly four times in the main per-sample processing loop.
This it true for 99% of all EVM programs.  The input/output data buffer
(filled by the CODEC interrupt handler) uses four words
per sample.

Understanding the waitblock macro, the I/O buffer structure,
and its pointer register (usually but not always r2) is critical
to software development on the EVM.  Unfortunately, the
documentation is not easy to find.

When I get home, I will make sure that my version of qrmqrn
still works for me, and see if I can help any further.

Doug

At 08:54 PM 3/17/99 -0700, you wrote:
>I'm still looking for fft-cut.
>
>Attached is the qrmqrn I modified -- still doesn't work. Time for me to
>read
>all of "Leonid". Mods marked 'jwc'.
>

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 68. [dsp] Re: Step 2

From: "Paulus" <paulstra@xs4all.nl>
Date: Thu, 18 Mar 1999 17:24:47 +0100
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-11275-1999.03.18-10.27.50--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Is this the one ?

73 de Paul, pa0ocd
[Attachment: Fft-cut.asm; application/octet-stream; 37,388 bytes]

## 69. [dsp] dsp-cut.asm file web address

From: "Thomas M. Alldread" <tma@mail.island.net>
Date: Thu, 18 Mar 1999 10:06:03 -0800
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-11290-1999.03.18-13.11.38--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Greetings All:

> I'm still looking for fft-cut.

        I found dsp-cut.asm on the TAPR site within Johan, KC7WW's package -
filename 'evm56k3.zip' on URL:

                                http://www.tapr.org/tapr/html/dspf.html

73 & Enjoy!

Tom, VE7TMA

tma@island.net

---
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## 70. [dsp] ???EVM56002 CODEC Output Levels???

From: "Thomas M. Alldread" <tma@mail.island.net>
Date: Thu, 18 Mar 1999 21:12:00 -0800
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-11349-1999.03.19-00.17.35--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Greetings:

I have not been able to obtain a 2.8 Volt peak-to-peak output from my EVM CODEC. The CS4215 specification sheet indicates the CODEC should be capable of putting out 2.8 Vpp with the condition that the headphones and speaker outputs are muted.

Using FeedThru.asm for a test program I have set the output attenuators to 0.0 and muted the headphones and speaker outputs with the 'ctrlcd' macro call as follows:

```
ctrlcd  1,r2,buflen,MIC,22.5,22.5,LINEO,0.0,0.0
```

My CODEC control register words are 20,0C,A2 & 00 for time slots 1-4 respectively which should enable the 2.8 Vp-t-p (1V rms) line output level which is controlled by the OLB bit (data bit D3 of slot 1).

I use the CODEC output to drive a pair of amplified stereo computer speakers with an input impedance of approximately 10K. I have confirmed as expected that the connection of the speaker loads do not shunt down the CODEC 600 Ohm outputs hardly at all. The speaker amplifier input level is specified at 0.7V p-t-p and I find I have to operate with the volume setting near maximum. I expected to have lots of extra speaker amplifier gain with the specified 2.8 Vpp drive from the CODEC and I am trying to avoid the need to add an audio pre-amplifier.

I have been measuring the CODEC output levels with my Tektronix scope which I checked against the 300mV calibrator to confirm probe and scope accuracy. I find that with the input level set to drive the EVM to the clipping threshold the most I can get out of the CODEC is approximately 0.7 Volts p-t-p which is about 12 dB (2 linear CODEC steps?) below specification.

Does anyone here know why the output level is below spec or have any suggestions of what I should change to bring the levels up to spec? Is it possible that a couple of quantization levels are being dropped somewhere within the processing? I seem to also have the same problem with the rtcoef.asm multiple filter program.

Thanks in advance for any help!

73

Tom, VE7TMA

tma@island.net

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 71. [dsp] Re: fft-cut

From: Alberto di Bene <dibene@usa.net>
Date: 19 Mar 99 11:21:26 MET
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-11370-1999.03.19-04.23.53--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I have a question about the technique of spectral subtraction.
I tried in the past to implement it on the Pentium, but the results were that I got a lot of audio artifacts, which I attributed to the abrupt transitions in the frequency domain from bins with weight 0 (the noisy bins) to bins with weigth 1. This is to be expected, and it is called the Gibbs phenomenon.
Has the routine fft-cut.asm for the EVM taken special measures to avoid this ?
(I haven't examined the code). Thanks

Alberto, I2PHD

_____
Get free e-mail and a permanent address at http://www.netaddress.com/?N=1

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
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## 72. [dsp] would anyone know how to duplicate this in c code?

From: Mark Dell <greatmachine@yahoo.com>
Date: Fri, 19 Mar 1999 06:37:42 -0800 (PST)
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-11387-1999.03.19-08.37.34--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

```
function y = spike_train(x, sr)
% y=spike_train(x,sr) - simulate auditory-nerve spike generation process
% as inhomogenous poisson process

if min(x) < 0
        error ('driving function must be non-negative');
end

% Spikes are generated by an inhomogenous Poisson process with
% refractory effects.
%
% Spikes are generated in three steps.
% First, a spike train is generated by a _homogenous_ Poisson process
% with a rate equal to the peak instantaneous rate of the driving
function.
% Spike times are derived from interspike intervals that follow an
% exponential distribution.  The first spike is supposed to occur at 0.
% In a second step, spikes are weeded out probabilistically.  The
probability
% of "survival" of a spike is equal to the normalized driving function.
% In a third step, spikes are weeded out with a probabiltiy that depends
% on the interval that precedes them, to simulate refractory effects.

% First step:
max_rate = max(x);              % peak instantaneous rate
x = x ./ max_rate;              % normalize
N = size(x, 2);
D = N / sr;                             % duration of driving function

% generate enough intervals to cover duration of driving function
ns = D * max_rate;
z = poisson(ns, max_rate);

% transform to times, remove any out of range of driving function
t = [0,cumsum(z)];
mask = t * sr < N-1;
t = t .* mask;
t = nonzeros(t)';

% Second step:
% For each spike, draw a random number, and compare it to the
% instantaneous rate at the time of the spike.  Remove
% unlucky spikes.
ns = size(t, 2);
zz = rand(1, ns);
tt = fix(t .* sr) + 1;          % spike times expressed in samples
xx = x(tt);
mask = zz < xx;
t = mask .* t;
t = nonzeros(t)';

% Third step:
% Refractory effects: remove spikes preceded by interval shorter than
% the dead time.  This is a crude model of refractory effects.
dead = 0.001;           % ms
y = spike_dead(t, dead);

---

function y = spike_dead(x, dead);
% y=spike_dead(x,dead) - remove spikes preceded by interspike interval
% shorter than dead time (refractory effects)

first = x(1);           % save time of first spike
z = diff(x);            % transform to intervals
n = size(z, 2);

% take all intervals shorter than dead, add them to next interval
% and set them to zero so they can be removed

zz = find(z<dead);
for i = zz
         if (z(i) < dead)
                if (i <n)
```

```
                        z(i+1) = z(i+1) + z(i);
                end
                z(i) = 0;
        end;
end

z = nonzeros(z)';
y = [first, cumsum(z)+first];
```

---

DO YOU YAHOO!?
Get your free @yahoo.com address at http://mail.yahoo.com

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 73. [dsp] c code duplication of algorithm

From: Mark Dell <greatmachine@yahoo.com>
Date: Fri, 19 Mar 1999 07:08:59 -0800 (PST)
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-11389-1999.03.19-09.10.53--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

would anyone know how to duplicate in c code the the algorithm attatched to this message

---

DO YOU YAHOO!?
Get your free @yahoo.com address at http://mail.yahoo.com
[Attachment: circuit.txt; text/plain; 1,856 bytes]

## 74. [dsp] Re: fft-cut

From: Johan Forrer <forrerj@peak.org>
Date: Fri, 19 Mar 1999 08:29:31 -0800 (PST)
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-11401-1999.03.19-10.31.58--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Alberto,

Pawel would need to give you a definitive answer, but
as far as I remember there is very little done regarding
artifacts. A trivial thresholding scheme as far as I remember.

There was an article by Dave Hershberger, W9GR, in QEX some
time ago that went into spectral subtraction, also there
was an article by the fellow that wrote the code for the
JPS unit in Personal Engineering magazine where he described
his "spectral peaking" method. That basically consisted of
the spectral subtraction combined with a method where
silence periods were measured and then that used to steer
the subtraction process. There were some other good papers
that were referenced in these articles. I'm not at home
otherwise I could have looked for these references.

Not a trivial task if you want to do a good job.

Johan

On 19 Mar 1999, Alberto di Bene wrote:

> I have a question about the technique of spectral subtraction.
> I tried in the past to implement it on the Pentium, but the results were that
> I got a lot of audio artifacts, which I attributed to the abrupt transitions
> in the frequency domain from bins with weight 0 (the noisy bins) to bins with
> weigth 1. This is to be expected, and it is called the Gibbs phenomenon.
> Has the routine fft-cut.asm for the EVM taken special measures to avoid this ?
> (I haven't examined the code).  Thanks

> 
> Alberto,   I2PHD
> 
> 
> _____________________________________________________________
> Get free e-mail and a permanent address at http://www.netaddress.com/?N=1
> 
> ---
> You are currently subscribed to dsp as: FORRERJ@PEAK.ORG
> To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
> 
> 


---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 75. [dsp] EVM seems to "crash"

From: "Yves Vande Walle" <yvdw@pt.lu>
Date: Sat, 20 Mar 1999 00:22:07 +0100
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-11446-1999.03.19-17.24.20--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi all,

I've finished assembling the EVM-RI and started to play with. But it seems
I'am not lucky (or may be I'am stupid ;) ) but after downloading the bios2
and the fsk1200 it gets though.
The EVM is only able to send a few packets and then seems to "freeze". All
the leds lights up (cop,dcd,cat,status) and the only thing I can do is reset
the EVM.

What's wrong or what am I doing wrong ?

For info: EVM passes the evmtest, Bios2 is the lastest version of Dough (the
one modified for EVMRI ).

thanks for your help.

Yves

LX3YV/ON1KVX


---
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To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 76. [dsp] Re: EVM seems to "crash"

From: Johan Forrer <forrerj@peak.org>
Date: Fri, 19 Mar 1999 16:24:54 -0800 (PST)
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-11457-1999.03.19-18.27.20--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

A suggestion for what it's worth ...

You mention it happens on sending packets ... does other
programs that receive only work OK, or do that also
freeze up? If that works OK on RX, then you probably
have either
a) RF getting into the EVM (what's your SWR like?,
what RF power level are you running?),
b) nasty switching transients killing the DSP (do
you have proper reverse voltage protection diode
on the PTT, do you use .01uF bypass caps?),
c) a bad ground loop, (perhaps the DSP dies when you
change audio plugs? yes?), or
d) maybe a marginal power supply? (how much ripple?, what
voltage? too high/low?).

>From your description, sounds like a hardware/wiring problem
rather than software.

Just my 2 cents worth.

Johan, KC7WW

On Sat, 20 Mar 1999, Yves Vande Walle wrote:

> Hi all,
>
> I've finished assembling the EVM-RI and started to play with. But it seems
> I'am not lucky (or may be I'am stupid ;) ) but after downloading the bios2
> and the fsk1200 it gets though.
> The EVM is only able to send a few packets and then seems to "freeze". All
> the leds lights up (cop,dcd,cat,status) and the only thing I can do is reset
> the EVM.
>
> What's wrong or what am I doing wrong ?
>
> For info: EVM passes the evmtest, Bios2 is the lastest version of Dough (the
> one modified for EVMRI ).
>
> thanks for your help.
>
> Yves
>
> LX3YV/ON1KVX
>
>
> ---
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> To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
>
>

---
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To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 77. [dsp] SPY and further to Output levels

From: "Thomas M. Alldread" <tma@mail.island.net>
Date: Fri, 19 Mar 1999 18:54:03 -0800
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-11503-1999.03.19-22.00.10--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Greetings:

I have not received today's DSP mailing list digest yet but after thinking about the low output level problem some more I decided to post this followup.

After sending my previous message it occurred to me that probably the two MSB bits would need to be rounded off to cause the level to drop 12 dB which seems rather unlikely. The rounding of two lsb bits would reduce the SNR by 12 dB but should not make a noticable change of the level.

I decided to run the SPY program with Scope2.asm today and I seem to be able to achieve full Y scale deflection with the autoscale disabled. This was the first time I have run Scope2 and I am not sure at this point of the fixed Y scale calibration. I wonder if my presumption that full scale is +/- 32K A-D quantization steps representing the full 16 bit linear range of the CODEC is correct?

I will see if I can find some more information on the SPY/Scope2 useage in the TAPR archives. I wonder if anyone has collated a documentation package together from previous threads on the subject?

Many thanks to Doug, N1OWU for making his version of SPY available with the readme file which got me to the point of getting Scope2.asm going!

73 de Tom, VE7TMA
tma@island.net

---
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## 78. [dsp] Re: EVM seems to "crash"

From: Douglas Braun <doug.braun@intel.com>
Date: Sat, 20 Mar 1999 09:26:43 -0800
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-11622-1999.03.20-11.29.18--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The latest version of bios2 will light up all the LEDs and halt if it
detects a stack overflow.  This could happen if you wrote a program
with lots of nested subroutine calls.  But I can't imagine why
it would happen with a "known good" program.

When I get home tomorrow will make sue my own hardware works
with the software you mentioned...

Doug
N1OWU

At 12:22 AM 3/20/99 +0100, you wrote:
>Hi all,
>
>I've finished assembling the EVM-RI and started to play with. But it seems
>I'am not lucky (or may be I'am stupid ;) ) but after downloading the bios2
>and the fsk1200 it gets though.
>The EVM is only able to send a few packets and then seems to "freeze". All
>the leds lights up (cop,dcd,cat,status) and the only thing I can do is reset
>the EVM.
>
>What's wrong or what am I doing wrong ?
>
>For info: EVM passes the evmtest, Bios2 is the lastest version of Dough (the
>one modified for EVMRI ).

---
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## 79. [dsp] Re: EVM seems to "crash"

From: Douglas Braun <doug.braun@intel.com>
Date: Sat, 20 Mar 1999 09:30:19 -0800
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-11623-1999.03.20-11.32.49--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Yes, this could be a problem.  A long time ago, I would get sudden crashes
when using the PSK modem for satellites.  Then I noticed it
happened at the instant that my antenna rotator started to move.
The switching transients of the AC motor managed to get enough
noise into the EVM to cause a glitch or false interrupt or something.
Of course, the problem will be much worse if the EVM is not in
a shielded box.  Also, the diode bridge on the EVM's power supply
input can cause ground noise problems, I think.

Doug
N1OWU

At 04:24 PM 3/19/99 -0800, you wrote:
>A suggestion for what it's worth ...
>
>You mention it happens on sending packets ... does other
>programs that receive only work OK, or do that also
>freeze up? If that works OK on RX, then you probably
>have either
>a) RF getting into the EVM (what's your SWR like?,
>what RF power level are you running?),
>b) nasty switching transients killing the DSP (do
>you have proper reverse voltage protection diode
>on the PTT, do you use .01uF bypass caps?),
>c) a bad ground loop, (perhaps the DSP dies when you
>change audio plugs? yes?), or
>d) maybe a marginal power supply? (how much ripple?, what
>voltage? too high/low?).

---
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## 80. [dsp] Re: EVM seems to "crash"

From: "Yves Vande Walle" <yvdw@pt.lu>
Date: Sat, 20 Mar 1999 21:19:49 +0100
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-11636-1999.03.20-14.22.06--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Let me explain how the stuff is set up here.

Evm is not connected to any transmitter yet. I have set up the following
test environment:

1) Power Supply :  9 VDC regulated
2) 1 pc using an old but good working tnc2 driving the input of the evm. The
output of the tnc2 has been increased to reach about 100mv.
3) 1 pc using the evm.

It happen also when then evm is not connected to tnc2. (just the pc driving
the evm and nothing else).

Yves
LX3YV/ON1KVX


> -----Original Message-----
> From: bounce-dsp-3152@lists.tapr.org
> [mailto:bounce-dsp-3152@lists.tapr.org]On Behalf Of Johan Forrer
> Sent: samedi 20 mars 1999 1:25
> To: TAPR DSP Special Interest Group
> Subject: [dsp] Re: EVM seems to "crash"
>
>
> A suggestion for what it's worth ...
>
> You mention it happens on sending packets ... does other
> programs that receive only work OK, or do that also
> freeze up? If that works OK on RX, then you probably
> have either
> a) RF getting into the EVM (what's your SWR like?,
> what RF power level are you running?),
> b) nasty switching transients killing the DSP (do
> you have proper reverse voltage protection diode
> on the PTT, do you use .01uF bypass caps?),
> c) a bad ground loop, (perhaps the DSP dies when you
> change audio plugs? yes?), or
> d) maybe a marginal power supply? (how much ripple?, what
> voltage? too high/low?).
>
> >From your description, sounds like a hardware/wiring problem
> rather than software.
>
> Just my 2 cents worth.
>
> Johan, KC7WW
>
>
>
> On Sat, 20 Mar 1999, Yves Vande Walle wrote:
>
> > Hi all,
> >
> > I've finished assembling the EVM-RI and started to play with.
> But it seems
> > I'am not lucky (or may be I'am stupid ;) ) but after
> downloading the bios2
> > and the fsk1200 it gets though.
> > The EVM is only able to send a few packets and then seems to
> "freeze". All
> > the leds lights up (cop,dcd,cat,status) and the only thing I
> can do is reset
> > the EVM.
> >
> > What's wrong or what am I doing wrong ?
> >
> > For info: EVM passes the evmtest, Bios2 is the lastest version
> of Dough (the
> > one modified for EVMRI ).
> >
> > thanks for your help.
> >
> > Yves

> >
> > LX3YV/ON1KVX
> >
> >
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> >
>
>
> ---
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> To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
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>


---
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To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 81. [dsp] Re: Step 2

From: "Clark, John" <john.clark@state.co.us>
Date: Sat, 20 Mar 1999 20:02:04 -0700
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-11678-1999.03.20-21.01.55--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

FFT-cut is working well.

Thanks all for the help.

John


|  -----Original Message-----
|  From: Paulus [mailto:paulstra@xs4all.nl]
|  Sent: Thursday, March 18, 1999 9:25 AM
|  To: TAPR DSP Special Interest Group
|  Subject: [dsp] Re: Step 2
|
|
|  This message was sent using a character set not supported on
|  the Internet Mail Connector. The message text has been
|  placed into the attachment: ATT00400.txt. To view,
|  double-click on the attachment. If the text isn't displayed
|  correctly, save the attachment to disk, and then use a
|  viewer that can display the original character set.
|

---
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## 82. [dsp] Re: ???EVM56002 CODEC Output Levels???

From: Douglas Braun <doug.braun@intel.com>
Date: Sun, 21 Mar 1999 02:24:10 +0000
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-11765-1999.03.21-13.09.11--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

When I have looked at the output from my EVM, I got the 2.8 V, more or less.
Maybe the feedthru program has some attenuation built into it?

Try using the TONE.ASM program, which synthesizes a waveform
that naturally does not depend on the CODEC input at all.

TONE's frequency and output level are selectable at run-time
by giving arguments to DL.EXE.  For example:

dl tone f=1234

I forget that the variable name is for the amplitude, but it
should be obvious from looking at the code (which is
not in front of me at the moment...)

Doug
N1OWU

---
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## 83. [dsp] Re: SPY and further to Output levels

From: Douglas Braun <doug.braun@intel.com>
Date: Sun, 21 Mar 1999 03:00:16 +0000
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-11766-1999.03.21-13.09.36--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 06:54 PM 3/19/99 -0800, you wrote:

>       I decided to run the SPY program with Scope2.asm today and I seem to be
>able to achieve full Y scale deflection with the autoscale disabled.
>This was the first time I have run Scope2 and I am not sure at this
>point of the fixed Y scale calibration.  I wonder if my presumption that
>full scale is +/- 32K A-D quantization steps representing the full 16
>bit linear range of the CODEC is correct?

Correct.  By the way, if you have a program that is overflowing its data,
it looks pretty scary on the SPY display...

>       I will see if I can find some more information on the SPY/Scope2 useage
>in the TAPR archives. I wonder if anyone has collated a documentation
>package together from previous threads on the subject?

Yes, it is lousy.  There is virtually no documentation anywhere.
Also, some programs out there have an older version of the SPY
macro that does NOT work with the most recent versions of
spy.exe.

Doug
N1OWU

---
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## 84. [dsp] Re: EVM seems to "crash"

From: Douglas Braun <doug.braun@intel.com>
Date: Mon, 22 Mar 1999 01:13:57 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-11854-1999.03.22-00.21.08--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

There is one issue with the version of fsk1200.asm that I distributed:  It has
code to activate a relay in my interface circuit which switches the audio input
to the right source.  With the TPAR circuit, it would have the effect of
turning on (or off?) some LED on the front panel that I have no equivalent of.

Just look for the word "relay" in the code and take out the following instruction
that sets the I/O bit.  But I doubt this could be the source of a crash...

At the moment, my setup works fine with my latest bios2.asm and fsk1200.asm

Doug
N1OWU


At 03:22 AM 3/20/99 +0100, you wrote:

>I've finished assembling the EVM-RI and started to play with. But it seems
>I'am not lucky (or may be I'am stupid ;) ) but after downloading the bios2
>and the fsk1200 it gets though.
>The EVM is only able to send a few packets and then seems to "freeze". All
>the leds lights up (cop,dcd,cat,status) and the only thing I can do is reset
>the EVM.


---
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## 85. [dsp] Re: Step 2

From: Douglas Braun <doug.braun@intel.com>
Date: Mon, 22 Mar 1999 01:17:06 -0500

To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-11855-1999.03.22-00.21.13--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The version of qrmqrn.asm that I distributed will accept input
only from the right channel. To re-enable input from both channels,
you need to un-comment-out the three lines a bit below the "waitblk" line.
(The ones comment-out with ";;;").

Doug
N1OWU

---
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## 86. [dsp] EVM CODEC Output Level Limitation

From: "Thomas M. Alldread" <tma@mail.island.net>
Date: Mon, 22 Mar 1999 07:56:36 -0800
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-11902-1999.03.22-11.02.24--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Greetings All:

Further to my posting about not being able to obtain the specified 2.8 Vpp audio output level from my EVM56002 CODEC I have found the problem. Upon checking the input/output buffer values I discovered that the clipping was taking place in the analog output circuitry following the DACs. I discovered the EVM CODEC is incapable of driving the full 2.8Vpp output level into the load presented by the 1000 Ohm TX Level potentiometers I used within my homebrew radio interface. As I copied this 1K design value from some popular EVM radio interface designs posted on the Internet I think this information may be of value to others receiving this mailing list. If the combined load impedance presented to the CODEC line outputs by the parallel combination of your EVM radio interface and transceiver equipment is less than 8 KOhms then this information is of significance to you.

The CS4215 CODEC spec sheet stipulates that the line output loads should be not be less than 8K and the distortion spec is based on a 10K load. It would appear that the CODEC line outputs are not designed to drive a 1K load.

I found that with a 1K load the line outputs clip the positive waveform alternations at approximately 0.5Vp thus any output level above 1Vpp will be severely distorted. This can be quite significant when the internal CODEC output attenuators are set at 0.0 dB as it causes high distortion for the upper 50% of the D-A staircase! I found that if I decreased the drive to the line output amplifiers by programming 6dB of output attenuation into the CODEC then the clipping was no long noticeable and thus the distortion substantially reduced. This would limit the maximum TX output from my EVM interface to approximately 1Vpp which would be sufficient audio to drive most transceivers.

However, in my case I need at least 2Vpp to drive a set of amplified stereo computer speakers which I use for my acoustic outputs. The computer speaker set which has built in volume and balance controls permits me to monitor either or both EVM output channels at the relative levels of my choice.

After considering some amplifier addition alternatives I decided to utilize the existing outputs from the CODEC as the sources for TX audio. The headphone outputs are relatively low impedance sources and provide a higher voltage swing than the line outputs. It is important to note that the headphone outputs are DC coupled and referenced to a DC potential above ground which should be properly isolated. I provided the coupling and DC isolation with a pair of 600:600 Ohm miniature telco interface audio transformers. Although capacitive coupling might be a possible alternative I decided to use the transformer coupling method as a safeguard against otherwise possible audio ground current problems.

Although I didn't take the time to accurately measure IMD on the audio outputs driven from the headphone jack they did appeared clean on my scope and were close to 4 Vpp with the CODEC output attenuators set at 0dB. I now have lots of drive for my speakers and the audio sound quality from my EVM has greatly improved!!! Unknowingly I was running my programs with 0dB output attenuation and was getting distorted audio peaks ever since I started experimenting with my EVM a few months ago.

Conclusions:

1) If your interface presents a load impedance of approximately 1K to the EVM line outputs you will get severely distorted audio peaks unless you limit the drive to the CODEC output amplifiers. To significantly reduce the distortion the drive reduction may be specified within the 'leonid ctrlcd' macro statement (found within most amateur radio EVM software) by specifying a minimum of 6.0dB for the CODEC output attenuators. Use this method with the following caveats in mind:

a) The maximum output level you will be able to achieve is approximately 1Vpp or 0.35Vrms.

b) The CODEC line outputs are operating with a load excessive to the design intent and consequently distortion performance may not meet published specifications.

c) If the combined load is < 1K then a further reduction of drive may be required or if the load is >1K and <8K the drive level reduction of 6dB most probably can be decreased.

d) As the line outputs are capacitive coupled low end frequency response will be reduced with loads below 10K. However since the EVM is designed for a response down to 20Hz this should not present a problem for most typical 200-3400 Hz BW amateur radio applications.

'ctrlcd' statement code examples:
==========

```
ctrlcd  1,r2,buflen,MIC,9.0,9.0,LINEO|HEADP,6.0,6.0
```

or:

```
LInGain         equ     9.0
RInGain         equ     9.0
LOutAtten       equ     6.0
ROutAtten       equ     6.0

ctrlcd  1,r2,buflen,MIC,LInGain,RInGain,LINEO|HEADP,LOutAtten,ROutAtten
```

2) If you require > 1Vpp CODEC output audio into a load impedance of < 8K from your EVM you may wish to consider utilizing the headphone stereo outputs with transformer coupling to provide the necessary DC isolation. Alternatives could be the provision of a low output Z amplifier possibly mounted on a daughter board or the raising of the interface output Z to 10K by replacing the TX level pots. Keep in mind, however, that the higher output impedance alternative would be more susceptible to external loads, noise ingress and RF feedback.

73 and enjoy!

Tom, VE7TMA

tma@island.net

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
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## 87. [dsp] TONE, SCOPE & SPY programs

From: "Thomas M. Alldread" <tma@mail.island.net>
Date: Mon, 22 Mar 1999 08:17:56 -0800
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-11909-1999.03.22-11.23.40--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Greetings Doug:

Thanks for the replies!

>
> When I have looked at the output from my EVM, I got the 2.8 V, more or less.
> Maybe the feedthru program has some attenuation built into it?
>

> Try using the TONE.ASM program, which synthesizes a waveform
> that naturally does not depend on the CODEC input at all.
>

        I used the TONE.ASM program to generate .9999 Vrms at various
frequencies for analyzing the problem and to check out the response of
my new transformer coupled outputs. This is a nice test program to have
around and some day I would like to improve it so it could be real time
controlled via the SCI port and possibly turned into an audio sweep
generator. The SPY/SCOPE program combination also looks like a nice
framework to build upon.

73 and enjoy!

Tom, VE7TMA

tma@island.net

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 88. [dsp] Re: TONE, SCOPE & SPY programs

From: Douglas Braun <doug.braun@intel.com>
Date: Mon, 22 Mar 1999 12:55:48 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-11926-1999.03.22-12.00.18--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Your ideas for Tone+Spy are good.  Go for it.

Spy itself would be improved if the graph axes were labeled in a useful fashion.
A Win32 version would also be nice.  The display resolution of the DOS version
is too low to do a really pretty-looking graph.

By the way, tone.asm will already do a two-tone output.
Just run:  dl tone f=1200 f2=2200 rms=0.5 rms2=0.35
etc.

Doug
N1OWU

At 08:17 AM 3/22/99 -0800, you wrote:

>       I used the TONE.ASM program to generate .9999 Vrms at various
>frequencies for analyzing the problem and to check out the response of
>my new transformer coupled outputs. This is a nice test program to have
>around and some day I would like to improve it so it could be real time
>controlled via the SCI port and possibly turned into an audio sweep
>generator. The SPY/SCOPE program combination also looks like a nice
>framework to build upon.


---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 89. [dsp] Re: Hello from a newbee !!

From: Claude Rolain <claude.rolain@pophost.eunet.be>
Date: Tue, 23 Mar 1999 08:27:34 +0100
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-12075-1999.03.23-01.30.42--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

This last week-end, I also finished assembling mu EVM-RI and, of course,
immediately started to investigate its capabilities.

I loaded the PLXBOOT from G3PLX and used the Feld-Hell and PSK31 Peter's
programs.
It work great without any tuning or problem and I made some QSO's on the 20
m band.
The only very small problem is that, from time to time, it seems to have
incompatibility between a DOS BOX in Windows 95 and Windows 95 in order to
manage the COM port. I reveive either the message "TIMEOUT" when I start
the FELD-HELL or PSK31 programs or "EVM not responding" with LOADEVM.
Those problems do not appear in pure DOS.
Anyway, a reset of the EVM and at least a reboot of the PC correct the
problem.

I then try Packet on VHF using (maybe old versions ?) LOADEVM,BIOS.ASM and
FSK1200 that I found on the Evaluation kit on the TAPR site. I try to
interface the DSP with TFX and the TOP program.
The reception is OK ( I perfectly monitor all the incoming frames ) but
when I try to connect a station, the PTT works perfectly, but I transmit
with no modulation at all.
I think that if the TX tuning was bad, I should have the same problem with
PSK31 or FELD-HELL ??

I also try the MT63 program with the old BIOS.CLD and a new BIOS2 that
ZL1BPU sent to me.
It seems to work with the Window95 Hyperterminal but I have to manually
TRANSMIT and REVEIVE, the PTT doesn't work.Anyway, I do not know the usual
frequencies and if European stations are playing with that mode.
Murray also told me about a Coquelet mode probably developped in Belgium
but I never heard about that mode. BTW in French a "coquelet" is a
cockerel. May be the signal does the same noise :-)

I have seen, in some previous messages that you invoke new programs like
SPY, SCOPE2, new FSK1200. Where is it possible to find them on the WEB.Is
the SSTV program still to be developped ??

Sorry if those are FAQ's but I started to study the documentation and it is
not that easy for a beginner in the DSP exciting world.

Thanks in advance for possible answers and hope to see all of you soon on
the air,

Claude - ON5PS

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 90. [dsp] Re: Hello from a newbee !!

From: Douglas Braun <doug.braun@intel.com>
Date: Tue, 23 Mar 1999 10:37:26 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-12115-1999.03.23-09.43.19--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Here is some advice on EEPROM programming and debugging
I sent out a few weeks ago.  Maybe there are more newer newbies now
who could also benefit from it...

Doug
N1OWU

>
>This afternoon was the first time I had a few hours to play with
>my EVM. I downloaded N1OUL's zip file of programs, including a new
>bios2.asm file. I assembled bios2, psk, fsk1200 and flshboot. Then
>I started EVM56K.exe and loaded, in this order:
>
>BIOS2.CLD
>FSK1200.CLD
>FLSHBOOT.CLD
>
>Then I exited the EVM56K program, turned the DSP off then turned it
>back on (what I figured the manual meant by "reset the DSP"). I then
>tried to see if any data from the radio would result in any signs of
>life in the DSP.

Did you execute the "GO" command to actually write the EEPROM?

There is a small reset button on the EVM obard, but turning the power off and on would also be OK.

Here are some things you can do to debug this situation:

1: After sucessfully burning the EEPROM, resetting the EVM should cause some of the LEDs
    to turn on and off for 2 or 3 seconds, and then some should remain on.  If nothing happens
    to the LEDS when you reset or power up the EVM, the EEPROM is probably unwritten or improperly
    written.

2: If the LEDs look OK, try running the DL command:  Connect the serial cable to the SCI port, and
    run the command "dl -p1 -x" (or "dl -p2 -x" if you use COM port 2).  The LEDS should blink again
    and the program should print the version of Leonid that is in the EEPROM.  If DL hangs and/or
    complains that the EVM is not present, double-check your serial port cabling.

```
3: Now try using DL to actually load a program.  I suggest TONE.LOD.  Run: "dl -p1 tone".  If you do not
 have
    the file tone.lod, you will have to assemble tone.asm and run the cldlod utility.  I suggest making
a little
    .BAT file for assembling programs more easily.  Here is what I use:

        @if not exist %1.asm goto nofile
        e:\ham\clas56\bin\asm56000 -ie:\ham\evm -a -b -g -l %1
        @if not exist %1.cld goto nofile
        e:\ham\clas56\bin\cldlod %1.cld > %1.lod
        @goto done
        :nofile
        @echo Missing file
        :done

    When you download the "tone" program, you should hear a tone from the headphone jack.  To change the
    frequency or amplitude of the tone, run e.g. "dl tone f=2100 rms=0.25".

4: Now load the fsk1200 modem by running: "dl fsk1200".  Then start up your packet program.  I recommend
    the KISS version of PMP, because its configuration is very simple.  If thinks work, great.
Otherwise, your
    left/right channel usage may not match the program's expectations.  Edit and reassemble the program
as
    necessary.  You can also change the CODEC gain settings to match your rig.

5: Once you have FSK1200 (or whatever program you want to use by default) working the way you like,
    you can re-write the EEPROM with it, and it will run properly at power-up.  Keep in mind how the
BIOS
    works:   At reset, it waits 2 or 3 seconds for a command from the SCI port.  If nothing arrives, it
starts
    up the built-in program that you wrote to the EEPROM.  The DL program can force a reset of the EVM
    at any time by writing a "magic" byte string to the SCI port.  Once the EVM acknowledges the reset,
DL will
    start downloading the new program to it.  But note that if a program changes the SCI baud rate, this
    auto-reset feature will not work, and you will have to manually reset it.


---
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```

## 91. [dsp] Re: Hello from a newbee !!

```
From: Douglas Braun <doug.braun@intel.com>
Date: Tue, 23 Mar 1999 10:33:50 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-12114-1999.03.23-09.43.16--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I'll mention one little detail about Win95 and serial ports:

If you access a serial port from a DOS program in a DOS window, that
port will be reserved for DOS until the DOS window is closed, and
real Windows (Win32) programs will NOT be able to access it.

That is why I ported DL.EXE to Win32.  It runs in a DOS window, but
it is not a DOS program, so it avoids locking out the port.

Doug
N1OWU

At 08:27 AM 3/23/99 +0100, you wrote:
>This last week-end, I also finished assembling mu EVM-RI and, of course,
>immediately started to investigate its capabilities.
>
>I loaded the PLXBOOT from G3PLX and used the Feld-Hell and PSK31 Peter's
>programs.
>It work great without any tuning or problem and I made some QSO's on the 20
>m band.
>The only very small problem is that, from time to time, it seems to have
>incompatibility between a DOS BOX in Windows 95 and Windows 95 in order to
>manage the COM port. I reveive either the message "TIMEOUT" when I start
>the FELD-HELL or PSK31 programs or "EVM not responding" with LOADEVM.
>Those problems do not appear in pure DOS.
>Anyway, a reset of the EVM and at least a reboot of the PC correct the
>problem.

---
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```

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## 92. [dsp] Re: Hello from a newbee !!

From: Johan Forrer <forrerj@peak.org>
Date: Tue, 23 Mar 1999 08:50:49 -0800 (PST)
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-12121-1999.03.23-10.53.24--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Doug,

Yes, the Dos/Windows COM port often causes confusion.

I do, however, believe that the DELPHI-based windows
programs (like for example those that come from G3PLX)
perhaps has a "feature" -- I do not believe that DELPHI
uses and accesses COM ports through the Windows API.
As long as you stay within the same platform all should
be OK, but between DOS/Windows and now some of the
virtual and Linux "Windows" environments it may play
some tricks.

Perhaps Borland have wrangled their own version of a COMM
handler. This little bit I gleaned from trying to use
Windows programs under the WINE program in Linux. If you
use the real MS Windows COMM API, things seem to behave normally.
DELPHI programs, however, does not seem to quite behave like this.

Someone might enliten me on this please.

73

Johan, KC7WW

On Tue, 23 Mar 1999, Douglas Braun wrote:

> I'll mention one little detail about Win95 and serial ports:
>
> If you access a serial port from a DOS program in a DOS window, that
> port will be reserved for DOS until the DOS window is closed, and
> real Windows (Win32) programs will NOT be able to access it.
>
> That is why I ported DL.EXE to Win32.  It runs in a DOS window, but
> it is not a DOS program, so it avoids locking out the port.
>
> Doug
> N1OWU
>
> At 08:27 AM 3/23/99 +0100, you wrote:
> >This last week-end, I also finished assembling mu EVM-RI and, of course,
> >immediately started to investigate its capabilities.
> >
> >I loaded the PLXBOOT from G3PLX and used the Feld-Hell and PSK31 Peter's
> >programs.
> >It work great without any tuning or problem and I made some QSO's on the 20
> >m band.
> >The only very small problem is that, from time to time, it seems to have
> >incompatibility between a DOS BOX in Windows 95 and Windows 95 in order to
> >manage the COM port. I reveive either the message "TIMEOUT" when I start
> >the FELD-HELL or PSK31 programs or "EVM not responding" with LOADEVM.
> >Those problems do not appear in pure DOS.
> >Anyway, a reset of the EVM and at least a reboot of the PC correct the
> >problem.
>
> ---
> You are currently subscribed to dsp as: FORRERJ@PEAK.ORG
> To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
>
>

---
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To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 93. [dsp] Re: Hello from a newbee !!

From: "f1usa" <f1usa@wanadoo.fr>
Date: Tue, 23 Mar 1999 19:05:17 +0100
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-12268-1999.03.24-02.39.44--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello Johan, and others...

Sorry for my "english"...

>perhaps has a "feature" -- I do not believe that DELPHI
>uses and accesses COM ports through the Windows API.

Delphi, like all others true compilers, allows the program writer to do simply everything (Nt service, Dll, regular exec, ...)

With an well-behaved design, there is no reason to get worst or better comms with Delphi than other compiler.

Under DOS+WIN3/9x, everything can happen, (talk to hardware, INT14h, Win API, well or ill behaved design)
Under WIN NT you _must_ talk with com ports through windows API (there is some others ways, but very cryptic ones).

73 de F1USA, Stephane (Oleron Island - France)

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
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## 94. [dsp] Re: EVM seems to "crash"

From: "Yves Vande Walle" <yvdw@pt.lu>
Date: Wed, 24 Mar 1999 20:04:35 +0100
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-12319-1999.03.24-13.06.51--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi all,

I made some additional tests and here are the results:

1) bios2* + psk   works OK
2) bios2* + g3ruh       OK
3) bios2* + fsk1200     Crash
4) bios2** + fsk1200    OK

*  bios2 version 1.25
** bios2 version 1.18
leonid version is 1.4 1997/01/14

So, I am obviously doing something wrong. But what ?

Yves

LX3YV/ON1KVX

> -----Original Message-----
> From: bounce-dsp-3152@lists.tapr.org
> [mailto:bounce-dsp-3152@lists.tapr.org]On Behalf Of Douglas Braun
> Sent: lundi 22 mars 1999 7:14
> To: TAPR DSP Special Interest Group
> Subject: [dsp] Re: EVM seems to "crash"
>
>
> There is one issue with the version of fsk1200.asm that I
> distributed:  It has
> code to activate a relay in my interface circuit which switches
> the audio input
> to the right source.  With the TPAR circuit, it would have the effect of
> turning on (or off?) some LED on the front panel that I have no
> equivalent of.
>
> Just look for the word "relay" in the code and take out the
> following instruction
> that sets the I/O bit.  But I doubt this could be the source of a crash...
>
> At the moment, my setup works fine with my latest bios2.asm and

> fsk1200.asm
>
> Doug
> N1OWU
>
>
> At 03:22 AM 3/20/99 +0100, you wrote:
>
> >I've finished assembling the EVM-RI and started to play with.
> But it seems
> >I'am not lucky (or may be I'am stupid ;) ) but after downloading
> the bios2
> >and the fsk1200 it gets though.
> >The EVM is only able to send a few packets and then seems to
> "freeze". All
> >the leds lights up (cop,dcd,cat,status) and the only thing I can
> do is reset
> >the EVM.
>
>
> ---
> You are currently subscribed to dsp as: yvdw@pt.lu
> To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
>
>


---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
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## 95. [dsp] Re: Hello from a newbee !!

From: Johan Forrer <forrerj@peak.org>
Date: Wed, 24 Mar 1999 11:39:54 -0800 (PST)
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-12324-1999.03.24-13.42.32--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Thanks Stephane -- thats useful to know.

73, Johan


On Tue, 23 Mar 1999, f1usa wrote:

.....

> Under DOS+WIN3/9x, everything can happen, (talk to hardware, INT14h, Win API, well or ill behaved
design)
> Under WIN NT you _must_ talk with com ports through windows API (there is some others ways, but very
cryptic ones).
>
> 73 de F1USA, Stephane (Oleron Island - France)


---
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## 96. [dsp] Re: dsp digest: March 22, 1999

From: "Thomas M. Alldread" <tma@mail.island.net>
Date: Wed, 24 Mar 1999 11:41:16 -0800
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-12334-1999.03.24-14.47.32--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Greetings Doug, N1OWU:


> By the way, tone.asm will already do a two-tone output.
> Just run:  dl tone f=1200 f2=2200 rms=0.5 rms2=0.35
> etc.

        While looking into the possibility of writing a real time control
program for 'tone.asm' I noticed the 'Revision 1.2  1996/12/28 15:57:26
dbraun' version which I extracted from 'n1owu_11.zip\evmcode.zip' does
not seem to have an 'f2' variable and when I attempt to download it with
DL32.exe f=1000 f2=1500  I get a corresponding error message. I wonder
if possibly there is a newer version of tone which I have not been able

to find on the net?

        Thanks in advance for your help!

73 de Tom, VE7TMA

tma@island.net

---
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## 97. [dsp] Re: dsp digest: March 22, 1999

From: Douglas Braun <doug.braun@intel.com>
Date: Wed, 24 Mar 1999 21:19:55 -0800
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-12391-1999.03.24-20.22.53--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 11:41 AM 3/24/99 -0800, you wrote:
>Greetings Doug, N1OWU:
>       While looking into the possibility of writing a real time control
>program for 'tone.asm' I noticed the 'Revision 1.2  1996/12/28 15:57:26
>dbraun' version which I extracted from 'n1owu_11.zip\evmcode.zip' does
>not seem to have an 'f2' variable and when I attempt to download it with
>DL32.exe f=1000 f2=1500  I get a corresponding error message. I wonder
>if possibly there is a newer version of tone which I have not been able
>to find on the net?

Oops, I must have added the second tone after I put together
the distribution.  I will post a newer version at www.erols.com/dougbert,
but it will be a couple of days before I will be able to.

Doug
N1OWU

---
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## 98. [dsp] Re: Hello from a newbee !!

From: Douglas Braun <doug.braun@intel.com>
Date: Wed, 24 Mar 1999 21:17:31 -0800
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-12392-1999.03.24-20.22.56--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 11:39 AM 3/24/99 -0800, you wrote:

>> Under WIN NT you _must_ talk with com ports through windows API (there is some others ways, but very
cryptic ones).

Not really- A DOS executable that accesses the serial port will run
on NT.  I have done it myself.  (SPY.EXE for example).

Doug
N1OWU

---
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## 99. [dsp] Re: Hello from a newbee !!

From: "(SV2AGW)George Rossopoulos" <sv2agw@pigeon.ee.auth.gr>
Date: Thu, 25 Mar 1999 09:14:26 +0200
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-12433-1999.03.25-05.27.02--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi All

>> Under DOS+WIN3/9x, everything can happen, (talk to hardware, INT14h, Win
API, well or ill behaved design)
>> Under WIN NT you _must_ talk with com ports through windows API (there is
some others ways, but very cryptic ones).
>>
>> 73 de F1USA, Stephane (Oleron Island - France)

Well this is not the case. I will try to explain in brief what happens under
WIN95/98 and NT.
Under WIN95/98 and NT we can run the follow applications (executable kind)
1.Old Dos Programs
2.Old win 3 16bit windows programs
3.32bit  windows applications
4.32bit  console applications

1.Dos
You can access any hardware but you don't access directly the hardware.
Instead windows creates a virtual machine for each dos program. Then each
access to the hardware first is checked by the windows and only if the
hardware is free. Your program is running in real mode. The switching from
real mode to protected mode and back adds latency time to interrupts etc. An
example, trying to accessing the real time clock you actually access the
windows driver for the real time clock and not the hardware. This is why
most programs like Baycom cannot work properly in a dos box.
2.16b windows programs (old win3.xx)
You can access any hardware but only from a DLL. The same restrictions as
dos.
3.32bit  windows applications
You cannot access any hardware.Only the drivers. Instructions like in
(inport) or out(outport) don't work even from DLLs.
4.32bit  console applications
Same as 32bit  windows applications.If you don't know these kind of programs
are like DOS but are 32bit  and use the windows 32b API. It is a quick
method to write a windows program using printf etc instead of managing
windows.

Under WIN95/98 and NT your windows application is running at Ring3. If you
wish to access the hardware your application must run at Ring0. At Ring0 run
the drivers (vxd,sys etc). But even at Ring0 restrictions apply. It is
possible another driver before your driver to trap a port, so when your
ring0 driver tries to access that port will actually access the previous
driver.

Thats in brief
73
(SV2AGW)George Rossopoulos
http://www.forthnet.gr/sv2agw/
sv2agw@the.forthnet.gr
sv2agw@pigeon.ee.auth.gr

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 100. [dsp] Re: Hello from a newbee !!

From: "f1usa" <f1usa@wanadoo.fr>
Date: Thu, 25 Mar 1999 13:41:22 +0100
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-12438-1999.03.25-07.02.03--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Doug,

>>> Under WIN NT you _must_ talk with com ports through windows API (there is some others ways, but very
 cryptic ones).
>
>Not really- A DOS executable that accesses the serial port will run
>on NT.  I have done it myself.  (SPY.EXE for example).

:-))) Yes, It's confusing...

I've have a DOS program running 24H a day on a NT station.
This DOS program is on COM2. But this COM2 is not a true COM2 (I/O and IRQ speaking)...
It's a com port seen as a COM2 by the DOS program (there is 14 serial lines (2+4+8) inside this PC).

To my little knowledge (I've quickly seen a NT serial driver source code many years ago in the Micro$oft
 DDK):

Your DOS executable talk to a virtual machine (DOS 5 in our NT case)
This virtual machine talk to a virtual driver : four virtual 450/550 UARTS (COM1-COM4... no more without
 rewrite it <g>)

The virtual driver talk to the windows API
The windows API (if you're allowed to) talks to the NT driver or drop the request with a modal warning window
The NT driver talk to the hardware.

- I feel (for users rights and control access reasons) NT is watching all API calls made by users programs (even DOS, when DOS
programs want to access a NT ressource)...

- Be very careful with "intelligent card" like DIGIBOARD or COMTROL ROCKETPORT. They come with NT specific drivers, good for Win
apps, but not well behaved in a DOS point of view : blue screen guaranteed or tons of characters losts or flow control problems...

- The only way to access "directly" to hardware is to write a NT driver allowing you to hit I/O on demand : the I/O address is just
a parameter of the driver call ;-))) It's obviously a perfect way to crash the operating system...

- In NT Dos standard emulation, only COM1-COM4 allowed (this is a huge limitation IMHO).

73 de F1USA, Stephane (Oleron Island - France)

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 101. [dsp] Some test results with PSK!

From: Michael Keller <keller@gmx.net>
Date: Fri, 26 Mar 1999 09:28:11 +0200
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-12543-1999.03.26-02.30.31--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi all,

there are some additional performance tests of PSK i have done with Johan's (KC7WW) HF-simulator:

<http://www.qsl.net/dl6iak/testpsk.htm>

The results include experimental higher rate versions
of PSK31 also his floating-point DSP version of PSK31,
and SCS's version of PSK31 for the PTC-II unit and are
comparable with Johan's results for PSK-EVM and MT63.

73' Mike

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 102. [dsp] Spanish PSK31 for Windows on SB Helpfile.

From: Eduardo Jacob <jtpjatae@bicc00.bi.ehu.es>
Date: Fri, 26 Mar 1999 20:17:41 +0100
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-12589-1999.03.26-13.19.34--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

There is a new Windows Help File for the PSK31 Windows SB version in spanish. It is translated by Pauli EA3BLQ . I hope his example will be soonly be followed.

It's available as:

ftp://det.bi.ehu.es/pub/ham/psk31/p31sbh_es.zip

and

http://www.kender.es/~edu/download/p31sbh_es.zip

Regards

```
        Eduardo/EA2BAJ
-------------------------------------------------------
Eduardo EA2BAJ
DSP and HAM:   http://det.bi.ehu.es/~jtpjatae/ham.html
VHF PACKET: EA2BAJ @ EA2URV
PGP Key avlb: Send email w/subject: PGPKEY
fingerprint : D8 FA 54 49 F7 40 BA AA 09 1A 73 40 A4 26 ED BD

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
```

# April 1999

Original source file: dsp.9904
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/dspsig/mail_archive/dsp.9904

## 1. [dsp] PLXBOOT and PSK.ASM

From: Fernando Mederos <fmederos@adinet.com.uy>
Date: Sun, 04 Apr 1999 13:23:02 -0300
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-13945-1999.04.04-11.27.50--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Here I am again to report that I have succesfully loaded the 1200bps PSK
modem into the EVM with PLXBOOT.
        As I understand it the assembler divides the entire objet code into a
number of sections to produce the object file. This seems logical as it
provides independent relocation information for different portions of the
code. For some reason the assembler begins a new section for each piece of
code that resulted from a macro. This increases a lot the number of
sections in the object file. PLXBOOT loader (the PC part) supports upto 255
sections, the original PSK.CLD contains about 290 sections and hence the
error.
        What I did was to manually replace as many macros as I needed by its real
code until the sections number dropped below 255.

        73 de Fernando, CX6DD.

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 2. [dsp] Re: PLXBOOT and PSK.ASM

From: Douglas Braun <doug.braun@intel.com>
Date: Sun, 04 Apr 1999 14:58:45 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-13974-1999.04.04-15.02.04--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 01:23 PM 4/4/99 -0300, you wrote:
>
>       Here I am again to report that I have succesfully loaded the 1200bps PSK
>modem into the EVM with PLXBOOT.
>       As I understand it the assembler divides the entire objet code into a
>number of sections to produce the object file. This seems logical as it
>provides independent relocation information for different portions of the
>code. For some reason the assembler begins a new section for each piece of
>code that resulted from a macro. This increases a lot the number of
>sections in the object file. PLXBOOT loader (the PC part) supports upto 255
>sections, the original PSK.CLD contains about 290 sections and hence the
>error.
>       What I did was to manually replace as many macros as I needed by its real
>code until the sections number dropped below 255.
>
>       73 de Fernando, CX6DD.


Does PLXBOOT work with .CLD or .LOD file formats?
The .LOD format is simpler, and text based, but you have to run another
program (cldlod.exe) to generate it.

I would that that the above 255-section limitation could be easily removed from
the code...

Doug

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 3. [dsp] Re: PLXBOOT and PSK.ASM

From: Fernando Mederos <fmederos@adinet.com.uy>
Date: Sun, 04 Apr 1999 17:22:53 -0300
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-13976-1999.04.04-15.38.26--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Doug,

>Does PLXBOOT work with .CLD or .LOD file formats?
>The .LOD format is simpler, and text based, but you have to run another
>program (cldlod.exe) to generate it.

Unfortunately it only accepts .CLD files.

>I would that that the above 255-section limitation could be easily removed
from
>the code...

I agree. It seems that the EVM running loader just receives a block of data from the PC and then resets to expect a new block. So there should be no need to touch the EVM part of the code. Unfortunately the Pascal source code that is distributed with PLXBOOT is not complete.

Regards, Fernando.

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 4. [dsp] Re:Debug EVM56002

From: "Bjoern Stokke" <bstokke@c2i.net>
Date: Mon, 5 Apr 1999 09:55:56 +0200
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-14092-1999.04.05-03.01.21--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi,

I am using the Windowed Debug EVM ver. 1.06.
However, I cannot find the macro command  m o v e
listed in the manual.

Has this macro command been removed from earlier versions?

regards
Bjoern Stokke LA5ZL
Sandnes, Norway

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 5. [dsp] Re: EVM seems to "crash"

From: Douglas Braun <doug.braun@intel.com>
Date: Tue, 06 Apr 1999 13:45:19 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-14366-1999.04.06-15.20.44--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I finally got a chance to hook up all my gear, and I see the same problem.
I/am puzzled.  I will try some versions of BIOS2 between 1.18 and 1.25
to try to see which change introduced the problem.

Doug
N1OWU

At 11:04 PM 3/24/99 +0100, you wrote:
>Hi all,
>
>I made some additional tests and here are the results:
>
>1) bios2* + psk   works OK
>2) bios2* + g3ruh       OK
>3) bios2* + fsk1200     Crash
>4) bios2** + fsk1200    OK
>
>
>*  bios2 version 1.25
>** bios2 version 1.18
>leonid version is 1.4 1997/01/14
>
>So, I am obviously doing something wrong. But what ?
>

>Yves
>
>LX3YV/ON1KVX


---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 6. [dsp] Re:Debug EVM56002

From: "Thomas M. Alldread" <tma@mail.island.net>
Date: Tue, 06 Apr 1999 18:15:36 -0700
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-14435-1999.04.06-20.19.25--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Greetings Bjoern:

> I am using the Windowed Debug EVM ver. 1.06.
> However, I cannot find the macro command  m o v e
> listed in the manual.
>
> Has this macro command been removed from earlier versions?

        I do not have the answer to your question but I noticed my Windows 95
version of Debug EVM is 3.07 which might be of interest to you. I
downloaded it from the Domain Technology's web site a few months ago. My
MSDOS version of DEBUG is also 1.06.00. I have both the DOS and Windows
versions loaded on my hard drive and I confirmed with a search that I do
not have a move.cmd file on my system either. I also looked under Macros
in my old Debug-EVM manual which came with my EVM about 4 or 5 years ago
and I didn't run across anything on the MOVE macro command either.

        I hope this information helps you track it down.

73 & Enjoy!
Tom, VE7TMA
tma@island.net

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 7. [dsp] Re: EVM seems to "crash"

From: Douglas Braun <doug.braun@intel.com>
Date: Wed, 07 Apr 1999 10:50:56 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-14527-1999.04.07-10.59.10--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I have finally found and fixed this problem.  The bug was in BIOS2.ASM
(and could have affected all the AX25 modems).  I introduced the problem
last year (version 1.26) when I tried to optimize some of the timer-related
code.  I put it back the way it used to be, and things work OK now.

You can get the fixed version from <www.erols.com/dougbert>
Also grab the companion Leonid.asm file.  I also put
on the web page my latest versions of some of the modems,
the tone generator, and the Flash EPROM burner program.

Doug
N1OWU


At 11:04 PM 3/24/99 +0100, you wrote:

>
> I've finished assembling the EVM-RI and started to play with.
> But it seems
> I'am not lucky (or may be I'am stupid ;) ) but after downloading
> the bios2 and the fsk1200 it gets though.
> The EVM is only able to send a few packets and then seems to
> "freeze". All
> the leds lights up (cop,dcd,cat,status) and the only thing I can
> do is reset the EVM.

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 8. [dsp] Re: EVM seems to "crash"

From: "Yves Vande Walle" <yvdw@pt.lu>
Date: Wed, 7 Apr 1999 22:06:31 +0200
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-14559-1999.04.07-15.08.56--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Doug,

I tried out (at least the fsk1200 for the moment) It works ! (great!)

Thanks for solving the problem.

Yves
ON1KVX/LX3YV

> -----Original Message-----
> From: bounce-dsp-3152@lists.tapr.org
> [mailto:bounce-dsp-3152@lists.tapr.org]On Behalf Of Douglas Braun
> Sent: mercredi 7 avril 1999 17:51
> To: TAPR DSP Special Interest Group
> Subject: [dsp] Re: EVM seems to "crash"
>
>
> I have finally found and fixed this problem.  The bug was in BIOS2.ASM
> (and could have affected all the AX25 modems).  I introduced the problem
> last year (version 1.26) when I tried to optimize some of the
> timer-related
> code.  I put it back the way it used to be, and things work OK now.
>
> You can get the fixed version from <www.erols.com/dougbert>
> Also grab the companion Leonid.asm file.  I also put
> on the web page my latest versions of some of the modems,
> the tone generator, and the Flash EPROM burner program.
>
> Doug
> N1OWU
>
>
> At 11:04 PM 3/24/99 +0100, you wrote:
>
> >
> > I've finished assembling the EVM-RI and started to play with.
> > But it seems
> > I'am not lucky (or may be I'am stupid ;) ) but after downloading
> > the bios2 and the fsk1200 it gets though.
> > The EVM is only able to send a few packets and then seems to
> > "freeze". All
> > the leds lights up (cop,dcd,cat,status) and the only thing I can
> > do is reset the EVM.
>
> ---
> You are currently subscribed to dsp as: yvdw@pt.lu
> To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
>
>

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 9. [dsp] Re: EVM seems to "crash"

From: Douglas Braun <doug.braun@intel.com>
Date: Wed, 07 Apr 1999 15:08:02 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-14562-1999.04.07-15.11.32--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 10:06 PM 4/7/99 +0200, you wrote:
>Doug,
>
>I tried out (at least the fsk1200 for the moment) It works ! (great!)
>
>Thanks for solving the problem.
>
>Yves
>ON1KVX/LX3YV

It was the least I could do, since I was the one who caused it
in the first place...

Doug

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 10. [dsp] EVM 'Phones' vs 'Line' Outputs Peformance Comparisons

From: tmaldred@island.net (Thomas Alldread)
Date: Wed, 07 Apr 1999 21:32:04 GMT
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-14572-1999.04.07-16.35.24--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Greetings All:

I decided to put my 'TestTone' dual two-tone audio generator program for the EVM to the test by using it to do a comparison of the IMD, Crosstalk and Noise audio performance of the 'Line' and 'Phones' outputs both working into a 1K transformer coupled load. I have attached a report in the text file format which can be viewed with Windows95 NotePad.

I hope this information is of interest.

73 & Enjoy!
Tom, VE7TMA

Very Best Regards: Thomas M. Alldread
E-mail: tmaldred@mail.island.net
[Attachment: AFOTests.txt; text/plain; 6,119 bytes]

## 11. [dsp] EVM 'Phones' vs 'Line' Outputs Peformance Comparisons

From: tma@mail.island.net (Thomas M. Alldread)
Date: Thu, 08 Apr 1999 02:04:59 GMT
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-14617-1999.04.07-21.08.22--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Greetings All:

I decided to put my 'TestTone' dual two-tone audio generator program for the EVM to the test by using it to do a comparison of the IMD, Crosstalk and Noise audio performance of the 'Line' and 'Phones' outputs both working into a 1K transformer coupled load. I have attached a report in the text file format which can be viewed with Windows95 NotePad.

I hope this information is of interest.

73 & Enjoy!
Tom, VE7TMA

Very Best Regards: Thomas M. Alldread
E-mail: tmaldred@mail.island.net
[Attachment: AFOTests.txt; text/plain; 6,119 bytes]

## 12. [dsp] EVM 'Phones' vs 'Line' Outputs Peformance Comparisons

From: tma@mail.island.net (Thomas M. Alldread)
Date: Thu, 08 Apr 1999 06:14:08 GMT
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-14659-1999.04.08-01.17.32--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Greetings All:

Sorry about my scrambled postings yesterday folks! I am learning that this list server doesn't like my attached text files, (:/). I decided to try and include the tables within this email text body. I find the display OK on my system with Courier 10 pt fonts and with word wrap turned OFF. If anyone wants the information and has trouble displaying it send me an email message and I will send it direct as a NotePad txt file attachment.

I decided to put my 'TestTone' dual two-tone audio generator

program for the EVM to the test by using it to do a comparison of the IMD, Crosstalk and Noise audio performance of the 'Line' and 'Phones' outputs both working into a 1K transformer coupled load.

I hope this information is of interest and sorry for any inconvenience you may have displaying the tables.

73 & Enjoy!
Tom, VE7TMA
tma@island.net

199904071820Z

VE7TMA's Home Brew DSP56002EVM Radio Interface Output Performance Test Results
==========

1) Objectives:

To compare the performance of the 'Phones' and 'Line' outputs connected to a transformer coupled 1K Ohm load for the following audio performance parameters:

1.1) IMD

1.2) Crosstalk

1.3) Noise

2) Test Setup:

2.1) Two Tone signal source: DSP56002 running TestTone.lod with two tones directed to the right channel set at:

Generator A: 720 Hz, 2,800 mV p-t-p
Generator B: 1928 Hz, 2,800 mV p-t-p

2.2) Spectrum Analysis: Sound Blaster 16 running under MSDOS Freq51 software setup as follows:

sample rate: 47,619 Hz
FFT length : 2,048
Freq. Res. : 23.25 Hz

3) Results:

3.1) IMD:

Table 3.1.1 - 'Phones' Output Measurements

| O/P Atn dB | 500Hz | 720Hz | 950Hz | 1200Hz | 1450Hz | 1700 | 1928 | 2150 |
|---|---|---|---|---|---|---|---|---|
| 0.0 (*) | -74(60) | -14 | <-85(>71) | <-85(>71) | <-85(>71) | <-85(>71) | -14 | <-85(>71) |

Notes: (*)Output level pot adjusted for maximum allowable spectrum analyzer input.

Table 3.1.2 - 'Line' Output Measurements

| O/P Atn dB | 500Hz(**) | 720Hz | 950Hz | 1200Hz | 1450Hz | 1700 | 1928 | 2150 |
|---|---|---|---|---|---|---|---|---|
| 0.0 (*) | -37(23) | -14 | -50(36) | -32(18) | -35(21) | -55(41) | -14 | -48(34) |
| 1.5 (*) | -40(26) | -14 | -55(41) | -35(21) | -38(24) | -56(42) | -14 | -46(32) |
| 3.0 (*) | -45(31) | -14 | -58(44) | -42(28) | -44(30) | -53(39) | -14 | -48(34) |
| 4.5 | -57(42) | -15 | -57(42) | -55(40) | -56(41) | -57(42) | -15 | -56(41) |
| 6.0 | -61(44) | -17 | -75(58) | -80(63) | -80(63) | -72(55) | -17 | -76(59) |
| 7.5 | -62(43) | -19 | -75(56) | <-85(>66) | <-85(>66) | -73(54) | -19 | -76(57) |
| 9.0 | -63(43) | -20 | -75(55) | <-85(>65) | <-85(>65) | -74(54) | -20 | -76(56) |
| 15.0 | -67(41) | -26 | -76(50) | <-85(>59) | <-85(>59) | -79(53) | -26 | -78(52) |

```
   21      | -72(40) |  -32  |<-85(>53)|<-85(>53)|<-85(>53)|<-85(>53)|  -32 | -80(48) |
=============================================================================================
Notes: (*)Output level pot adjusted for maximum allowable spectrum analyzer input.
        (**)500Hz product became predominate with attenuator settings >6.0 dB.

        3.2) CrossTalk:

                3.2.1 - Phones Output

                With full two tone output level on the left channel the crosstalk was measured
at -75 dB relative to -14 dB signal level or 61 dB down. This is considerably better than the
EVM specification which is only 40 dB with a 20 Ohm headset load. I presume the much lighter
1K Ohm load results in much less crosstalk due to the lower ground currents.


                3.2.2 - Line Output

                With full two tone output level on the left channel no crosstalk was measured
above the -85 dB noise floor relative to -17 dB signal level or > 68dB down. This is
corresponds to the EVM crosstalk spec which indicates the Line output crosstalk performance
is much better than that of the Phones output.


        3.3) The noise for both outputs within the band of interest was more or less the same at
about -85 dB irrespective of the output attenuator setting and did not drop when the EVM was
disconnected thus I presume the noise floor was caused by the Sound Blaster 16/Freq51
combination and the associated cabling. There was low frequency noise present below about 100Hz
as high as -48dB which also appeared to be generated within the SB16/Freq51 combination.


4.0) Conclusions:

        4.1) The IMD performance from the 'Phones' output was almost 20 dB better than that
obtained from the 'Line' output both working into the same 1K transformer coupled load.

        4.2) The optimum output pad setting for the 'Line' outputs operating into 1K loads is
6.0 dB and operation with a setting of 3 dB or less should be avoided as this would degrade a
typical amateur radio signal. With the 6.0 dB setting the IMD performance at -44dB should be
OK as it is almost 20 dB better than most SSB rigs operating at full output power. On a
voltage scale the IMD products would be less than 1% of the desired signal. If lower levels
are required for driving the audio input of the rig then they should be obtained by turning
down the level with external pots provided in the radio interface as an attenuator setting of
>6.0 dB seems to degrade the IMD performance somewhat due to a 500Hz spurious signal. If
higher levels are required then use of the transformer coupled 'Phones' outputs should be
considered as a possible alternate choice for levels up to approximately 3.5V p-t-p.

        4.3) The crosstalk performance of the transformer coupled 'Phones' output is
not as good as the 'Line" output performance. However at -60dB or 0.1% on a voltage scale it
is much better than adequate for amateur radio use.

        4.4) There was no significant steady state noise measured from either the 'Phones' nor
the 'Line' outputs.


73 and Enjoy!
Tom, VE7TMA
tma@island.net

Very Best Regards: Thomas M. Alldread
E-mail:            tmaldred@mail.island.net
[Attachment: AFOTests.txt; text/plain; 6,119 bytes]
```

## 13. [dsp] Re: EVM 'Phones' vs 'Line' Outputs Peformance Comparisons

```
From: "Mark L. Hammond" <hammond@camel.campbell.edu>
Date: Thu, 08 Apr 1999 08:59:50 -0400
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-14683-1999.04.08-08.03.13--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain
```

At 06:14 AM 4/8/99 GMT, you wrote:
>Greetings All:
>
>       Sorry about my scrambled postings yesterday folks! I am learning
>that this list server doesn't like my attached text files, (:/). I decided

I'm using Eudora Light, and I received both attachments from your previous
posts just dandy.

Thanks for the data!

73,


Mark L. Hammond   [KC4EBR]

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 14. [dsp] Re: EVM 'Phones' vs 'Line' Outputs Peformance Comparisons

From: Douglas Braun <doug.braun@intel.com>
Date: Thu, 08 Apr 1999 08:09:57 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-14716-1999.04.08-11.15.35--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Isn't a 1 Kohm load a bit too mich load for the line outputs?

By the way, if you want to drive a microphone input of a rig
from the EVM (or anything else besides a a microphone), you
have to be careful to avoid ground loop and ground noise
problems.  This is especially true if you are using
a seperate DC power supply for the rig.  If for example
you are using a SSB rig that draws 20 peak Amps, it
is very easy for some of that 20 Amps of ground return current to
sneak through the cable between the EVM and the rig.  An
audio transformer at the mic input is almost a necessity.
I have spent (wasted) a lot of time in the past dealing with
this sort of problem.

If you are driving a 600-ohm trnasformer from the EVM line
output, you can put a resistive attenuator before it that will
raise the load impedance that the EVM sees to 10K ohms or so.

Doug
N1OWU


At 02:04 AM 4/8/99 +0000, you wrote:
>Greetings All:
>
>       I decided to put my 'TestTone' dual two-tone audio generator
>program for the EVM to the test by using it to do a comparison of the
>IMD, Crosstalk and Noise audio performance of  the 'Line' and 'Phones'
>outputs both working into a 1K transformer coupled load. I have
>attached a report in the text file format which can be viewed with
>Windows95 NotePad.
>
>       I hope this information is of interest.
>
>73 & Enjoy!
>Tom, VE7TMA
>
>
>Very Best Regards: Thomas M. Alldread
>E-mail:            tmaldred@mail.island.net
>
>
>


---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 15. [dsp] TAPR Board of Directors Election Reminder

From: "Greg Jones, WD5IVD" <wd5ivd@tapr.org>
Date: Thu, 8 Apr 1999 12:30:22 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-14730-1999.04.08-12.34.45--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

This is a reminder to all TAPR members* that the TAPR Board of Directors
Election is happening until April 15th.

The current PSR supplied the necessary information for voting
electronically or via the mail.

If you don't know the web address or have lost your voter verification
number, then please send e-mail to tapr@tapr.org or call the TAPR office
(940) 383-0000 and Dorothy can supply you with the necessary information
for voting on-line.

The following people this year are running for the TAPR board of directors.

        Steve Bible, N7HPR
        Steve Dimse, K4HG
        Bob Hansen, N2GDE
        Steve Stroh, N8GNJ

Your vote as a member is important -- be sure to vote!

Cheers - Greg Jones, WD5IVD
President, TAPR

---------
* membership current as of or before January 1, 1999 to be able to vote.

--------------------------------------------------------------------------------
Tucson Amateur Packet Radio
8987-309 E Tanque Verde Rd #337 * Tucson, Az * 85749-9399
--------------------------------------------------------------------------------
e-mail: tapr@tapr.org       web: <http://www.tapr.org/>
ftp:    ftp.tapr.org
phone:  940-383-0000        fax: 940-565-2544
--------------------------------------------------------------------------------



---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org


## 16. [dsp] Re: dsp digest: April 08, 1999


From: "Thomas M. Alldread" <tma@mail.island.net>
Date: Fri, 09 Apr 1999 06:37:25 -0700
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-14883-1999.04.09-10.07.51--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain


Greetings Doug:

> Isn't a 1 Kohm load a bit too mich load for the line outputs?
>
        Yes the specified load is 10K and the 'Line Outputs' cannot drive a 1K
load at 2.8 Volts p-t-p without clipping (see my earlier posting of a
couple of weeks ago). However I believe there are some EVM radio
interface units around [including my own homebrew copy,(:/)] that
utilize 1K pots for the Line Output loads so therefore I thought this
information would be of interest here.

> By the way, if you want to drive a microphone input of a rig
> from the EVM (or anything else besides a a microphone), you
> have to be careful to avoid ground loop and ground noise
> problems.  This is especially true if you are using
> a seperate DC power supply for the rig.  If for example
> you are using a SSB rig that draws 20 peak Amps, it
> is very easy for some of that 20 Amps of ground return current to
> sneak through the cable between the EVM and the rig.  An
> audio transformer at the mic input is almost a necessity.
> I have spent (wasted) a lot of time in the past dealing with
> this sort of problem.

        Yes I have wasted time in a similar manner and I agree. When I first
saw the use of 1:1 audio isolation transformers for coupling computer
sound board audio to amateur gear I thought to myself that it seemed
sort of an 'old' technology approach. But after battling RF feedback for
a while and then trying transformer coupling I have concluded that
transformer coupling is simple, passive, inexpensive and works well as
it provides isolation for both low frequency and RF ground loops. I
installed the two TX/RX audio/isolation transformers, a level adjustment
pot and an RF low pass filter within a small metal enclosure about 6
inches from the AFSK auxiliary DIN jack on the back of my TS-850S. My
problems with RF feedback disappeared! One should, however, choose the
1:1 transformers carefully as some have pretty limited frequency
response. I have found an inexpensive import with relatively good
frequency response that can be purchased from one of the local suppliers
around here for about $6.00 Cdn. If there is interest shown I will post
the schematic for my isolation box on this mailing list.

>
> If you are driving a 600-ohm trnasformer from the EVM line
> output, you can put a resistive attenuator before it that will
> raise the load impedance that the EVM sees to 10K ohms or so.
>

Yes this is true and it would solve the clipping problem but at a cost of about 20 dB of signal attenuation. As long as 100 mv rms is all that you need (that should certainly be enough to drive the mic input of a typical rig) then a 9.1K series resistor may be the easiest way to solve the clipping problem with the Line outputs. But if your existing radio interface circuitry has a 1K line load and you wish to keep the line levels high for noise immunity considerations and also have sufficient output level to drive a pair of off the shelf amplified computer speakers then, at the cost of an additional pair of transformers for DC offset isolation, the phones outputs seem to do a pretty nice job.

73 & Enjoy!

Tom, VE7TMA
tma@island.net

---
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## 17. [dsp] IMD tables in posting

From: "Thomas M. Alldread" <tma@mail.island.net>
Date: Fri, 09 Apr 1999 06:38:10 -0700
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-14885-1999.04.09-10.08.39--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Greetings Mark:
>
> I'm using Eudora Light, and I received both attachments from your previous
> posts just dandy.
>

I find that very interesting as the = strings come back to me all scrambled up. I am beginning to wonder if the problem occurs within my local server.

> Thanks for the data!
>
> 73,
>
> Mark L. Hammond   [KC4EBR]

Your most welcome!

73 de Tom, VE7TMA

---
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## 18. [dsp] Re: dsp digest: April 08, 1999

From: Douglas Braun <doug.braun@intel.com>
Date: Fri, 09 Apr 1999 10:20:14 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-14888-1999.04.09-10.23.45--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 06:37 AM 4/9/99 -0700, you wrote:

This is more or less what I did.

Let me explain in more detail the issue of ground noise
(which can be a bigger problem than RF feedback, I believe):

Say you have a single DC power supply powering the rig.
If the ground cable from the rig to the PS has a resistance of 0.02 ohms,
with 20 peak amps of current there will be a 400 mV voltage drop.
Now consider the alternate ground path from the ground of the rig's
microphone connector, to the EVM box, thru the ground of the serial
cable to the PC, and from the PC box to the house wiring ground,
back to the power supply ground.  Say that this alternate path has

a resistance of 0.5 Ohms.  Thus, 400*.5 or 200 mA of current will
flow through the ground of the microphone connection.  You
can imagein what effect this would have on the 10mV microphone-level signal!

Doug
N1OWU

>       Yes I have wasted time in a similar manner and I agree. When I first
>saw the use of 1:1 audio isolation transformers for coupling computer
>sound board audio to amateur gear I thought to myself that it seemed
>sort of an 'old' technology approach. But after battling RF feedback for
>a while and then trying transformer coupling I have concluded that
>transformer coupling is simple, passive, inexpensive and works well as
>it provides isolation for both low frequency and RF ground loops. I
>installed the two TX/RX audio/isolation transformers, a level adjustment
>pot and an RF low pass filter within a small metal enclosure about 6
>inches from the AFSK auxiliary DIN jack on the back of my TS-850S. My
>problems with RF feedback disappeared! One should, however, choose the
>1:1 transformers carefully as some have pretty limited frequency
>response. I have found an inexpensive import with relatively good
>frequency response that can be purchased from one of the local suppliers
>around here for about $6.00 Cdn. If there is interest shown I will post
>the schematic for my isolation box on this mailing list.


---
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## 19. [dsp] DC/AF/RF Ground Loops

From: "Thomas M. Alldread" <tma@mail.island.net>
Date: Sat, 10 Apr 1999 08:43:48 -0700
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-15020-1999.04.10-12.14.48--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I agree with Doug's point of view. It is very possible that my feedback
problems were caused by a combination of RF and low frequency ground
currents. When operating a rig in a linear mode involving high magnitude
variations of current with modulation there is probably an audio
component floating along within the ground loops which could certainly
create the problem. The proportion of audio component within the DC
current paths probably varies from rig to rig according to the amount of
power supply decoupling provided by internal rig low pass filters.
Considering size and cost limitations I don't imagine this internal
decoupling is good enough to reduce the audio component below microphone
feedback levels. It appears that Kenwood considered this problem within
their design criteria for the TS-850S as they extended separate audio
~analog~ grounds for the microphone and AFSK input jacks. I know that on
one band in my case the feedback was predominately caused by RF as it
only occurred when I was running my AC powered linear at higher power
levels. I also noticed in some cases the feedback was very ground loop
related as I could cure the problem by switching from my multi-rig
station microphone to an isolated mobile mic. In any event audio
coupling with 1:1 isolation transformers has worked for me to solve my
digital mode feedback problems and based on my experiences I would
recommend this approach to others!


>
> Let me explain in more detail the issue of ground noise
> (which can be a bigger problem than RF feedback, I believe):
>
> Say you have a single DC power supply powering the rig.
> If the ground cable from the rig to the PS has a resistance of 0.02 ohms,
> with 20 peak amps of current there will be a 400 mV voltage drop.
> Now consider the alternate ground path from the ground of the rig's
> microphone connector, to the EVM box, thru the ground of the serial
> cable to the PC, and from the PC box to the house wiring ground,
> back to the power supply ground.  Say that this alternate path has
> a resistance of 0.5 Ohms.  Thus, 400*.5 or 200 mA of current will
> flow through the ground of the microphone connection.  You
> can imagein what effect this would have on the 10mV microphone-level signal!
>
> Doug
> N1OWU
>

tma@island.net

---
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## 20. [dsp] filtering for 1200 AFSK

From: Hamish Moffatt <hamish@rising.com.au>
Date: Thu, 15 Apr 1999 01:10:05 +1000
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-15947-1999.04.14-10.13.48--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi. I've just joined this list and have only been experimenting with
DSP for a few weeks now. I have a TMS320C31 DSK.

I've been experimenting with designing an FIR filter with two passbands,
centred on the two frequencies used in 1200 AFSK -- 1200 and 2200 Hz,
I believe. Just a single FIR filter with the same input and output
sampling rates; nothing fancy. Currently using a 63 tap filter.

I have two passbands of 200 Hz (100 Hz either side of 1200 and 2200 Hz),
100 Hz of transition and about 25 dB of attenuation below 1100 Hz,
between 1300 and 2100, and above 2300 Hz. Should this filter work in
theory -- ie is this filter going to filter any of the information
content out?

I believe it should work, but I'm currently attempting to decode AX.25
off a busy but noisy channel on 2m FM; with the DSK running pass through
(TI's LOOPAIC example), I can decode most of the packets; running my
filter, the noise is gone but I do not decode any packets at all. Audio
is coming out of the DSP though (I can hear it through speakers).
(Using the soundmodem on linux for decoding).

I believe the filter characters are right (I have had problems with TI's
example programs exceeding the hardware specifications), but will have
to confirm this before I rule it out.


thanks,
Hamish VK3TYD
--
Hamish Moffatt       Mobile: +61 412 011 176       hamish@rising.com.au

Rising Software Australia Pty. Ltd.
Developers of music education software including Auralia & Musition.
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Internet: http://www.rising.com.au/

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## 21. [dsp] Re: filtering for 1200 AFSK

From: Johan Forrer <forrerj@peak.org>
Date: Wed, 14 Apr 1999 08:41:04 -0700 (PDT)
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-15951-1999.04.14-10.44.18--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Thu, 15 Apr 1999, Hamish Moffatt wrote:

> Hi. I've just joined this list and have only been experimenting with
> DSP for a few weeks now. I have a TMS320C31 DSK.
>
> I've been experimenting with designing an FIR filter with two passbands,
> centred on the two frequencies used in 1200 AFSK -- 1200 and 2200 Hz,
> I believe. Just a single FIR filter with the same input and output
> sampling rates; nothing fancy. Currently using a 63 tap filter.
>
> I have two passbands of 200 Hz (100 Hz either side of 1200 and 2200 Hz),
> 100 Hz of transition and about 25 dB of attenuation below 1100 Hz,
> between 1300 and 2100, and above 2300 Hz. Should this filter work in
> theory -- ie is this filter going to filter any of the information
> content out?

Hamish,

No I'm afraid .... filter bandwidths are too narrow. Result is

destructive truncation. Try using filters that are at least the baudrate
in BW, preferably twice or more if possible.

I'll dig out the 320C26 example, but it may be while before I get there.
Also be aware that the 320C26 and 320C31 are very different animals.
Not only architectully, but also their assembly language. Probably
only worth looking at the code concepts would be of value but
a port would be better to do it all over (-- my opinion.)
I dont have the W9GR code, but that may be available on the
DSP archives on nic.funet.net (I think.)

Good luck! 73


Johan, KC7WW


---
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## 22. [dsp] Re: filtering for 1200 AFSK

From: Johan Forrer <forrerj@peak.org>
Date: Wed, 14 Apr 1999 10:03:17 -0700 (PDT)
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Cc: TAPR DSP Special Interest Group <dsp@lists.tapr.org>
Message-ID: <LYR3532-15977-1999.04.14-12.06.43--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hamid,

Just a few pointers that may help --- I remember when I first
started on the 320C26 DSK years ago how tough it was.

I really tried doing the best job I could describing the filter-type
DSP modem stuff. The article that I wrote for QEX on that topic is
on my web page (www.peak.org/~forrerj, see item no. 6, on the daptive
DSP modem.) You would need to redesign for 1200 bps FSK, but basically
all is the same. I have used that modem for packet in the past.

It is not the best implementation, however. For that I would
strongly suggest studying the work of SP9VRC that he done for
the Motorola EVM. The code is in the EVM56K3.ZIP package on
my web page. That also covers PSK and G3RUH-style modems.

Hope that is of use?

73

Johan, KC7WW



---
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## 23. [dsp] Re: filtering for 1200 AFSK

From: Hamish Moffatt <hamish@rising.com.au>
Date: Thu, 15 Apr 1999 08:09:14 +1000
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-16016-1999.04.14-17.12.59--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Wed, Apr 14, 1999 at 08:41:04AM -0700, Johan Forrer wrote:
> On Thu, 15 Apr 1999, Hamish Moffatt wrote:
>
> > I've been experimenting with designing an FIR filter with two passbands,
> > centred on the two frequencies used in 1200 AFSK -- 1200 and 2200 Hz,
> > I believe. Just a single FIR filter with the same input and output
> > sampling rates; nothing fancy. Currently using a 63 tap filter.
> >
> > I have two passbands of 200 Hz (100 Hz either side of 1200 and 2200 Hz),
> > 100 Hz of transition and about 25 dB of attenuation below 1100 Hz,
> > between 1300 and 2100, and above 2300 Hz. Should this filter work in
> > theory -- ie is this filter going to filter any of the information
> > content out?
>
> No I'm afraid .... filter bandwidths are too narrow. Result is

> destructive truncation. Try using filters that are at least the baudrate
> in BW, preferably twice or more if possible.

Thanks Johan, although I'm a bit confused. Are you suggesting that a simple
bandpass filter extending from 1100-600 Hz to 2200+600 Hz is the best that will
work?

73,
Hamish VK3TYD
--
Hamish Moffatt  Mobile: +61 412 011 176  hamish@rising.com.au

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Developers of music education software including Auralia & Musition.
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## 24. [dsp] Re: filtering for 1200 AFSK

From: Johan Forrer <forrerj@peak.org>
Date: Wed, 14 Apr 1999 16:52:53 -0700 (PDT)
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-16041-1999.04.14-18.56.09--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Thu, 15 Apr 1999, Hamish Moffatt wrote:
>
> Thanks Johan, although I'm a bit confused. Are you suggesting that a simple
> bandpass filter extending from 1100-600 Hz to 2200+600 Hz is the best that will
> work?
>

Think of it this way ... at the worst case you are sending a stream of
zero followed by one, i.e., mark/space/mark/space .... This is the same as
seeing a stream of tones keyed on/off at each filter output at 1/2 the
original baud rate. The spectral response of such a signal at the filter
output is the familiar sinx/x, where the main lobe is 600 Hz wide in your
case. If your filter is a brickwall, the effect is that the higher order
components of the keyed waveform gets filtered out and the result that
the on-off keyed waveform has lost its square edges.

If a demodulator now rectifies the filter output, it will look like a
sine, which thresholded (sliced) properly, will perfectly represent the
original information. However, if you are tuned off frequency, ever so
slightly, the slicer wont produce the correct result and the recovered
signal would be a distorted replica of what was intended.

The tradeoff is to make the filter as narrow as possible, without
making the process fussy about tuning. The range of frequencies that you
mention would work OK. Given that your filter order is only 65, you will
not even get close to a brickwall filter -- it will retain some of the
higher order harmonics to your advantage.

I'm no expert at this, perhaps some of the experts can shed some more
light on your question.

Hope this helps.

Johan, KC7WW

---
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## 25. [dsp] RE:filtering for 1200 AFSK

From: Moe Wheatley <ae4jy@mindspring.com>
Date: Thu, 15 Apr 1999 08:39:25 -0400
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-16128-1999.04.15-06.43.15--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Hamish,
A few years ago i did a 1200bps AFSK modem as a first dsp project for the DSP93 box which uses a TMS320C25. The bandpass filter was around 2Khz wide centered at 1700 Hz. I'm sure it was not optimum. The books say for FSK the BW is > twice the bit rate.

All the source and a verbose description of the design is at:

http://www.mindspring.com/~ae4jy/projects.htm

Hope this is of some use.

73's
Moe, AE4JY

---
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## 26. [dsp] Re: filtering for 1200 AFSK

From: Lyle Johnson <lylej@azstarnet.com>
Date: Thu, 15 Apr 1999 06:43:37 -0700
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-16149-1999.04.15-09.08.52--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello!

>Thanks Johan, although I'm a bit confused. Are you suggesting that a simple
>bandpass filter extending from 1100-600 Hz to 2200+600 Hz is the best that
will
>work?

That is the nominal occupied bandwidth of the signal.  Your receive filter needs to match this or you lose information.  Depending on your application, you may want to match it closely or not so closely.  If you are using this on an FM receiver (e.g., 2 meters) you aren't going to be doing weak signal work due to the threshold effect of FM...

Lyle

---
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## 27. [dsp] EVM improve for 9600 G3RUH demod.

From: Fernando Mederos <fmederos@adinet.com.uy>
Date: Fri, 16 Apr 1999 20:48:53 -0300
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-16414-1999.04.16-18.53.31--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi all,

Looking for a reason for my poor downlink on UO-22 (9600 baud FSK with G3RUH scrambling), I used Spy to examine the "odd phase" samples. Noise margin happened to be very reduced due to poor low freq. response on the EVM input circuitry. I placed non-pol. 4.7uF caps in parallel with both 0.33uF input ones and verified an increased low-freq. response (with local paging system signals).
I later tested the mod with UO-22 downlink and found a very significant improvement! From a 40-50% nominal to an 80% or more!

73 de FErnando, CX6DD

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
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## 28. [dsp] Re: EVM improve for 9600 G3RUH demod.

From: Douglas Braun <doug.braun@intel.com>
Date: Fri, 16 Apr 1999 23:42:33 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-16457-1999.04.16-23.46.24--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Would it be possible to put an IIR low-freq-boost filter
into the G3RUH code to compensate for the frequency rollof
without having to modify the circuit?

Doug
N1OWU

At 08:48 PM 4/16/99 -0300, you wrote:
>Hi all,
>
>       Looking for a reason for my poor downlink on UO-22 (9600 baud FSK with
>G3RUH scrambling), I used Spy to examine the "odd phase" samples. Noise
>margin happened to be very reduced due to poor low freq. response on the
>EVM input circuitry. I placed non-pol. 4.7uF caps in parallel with both
>0.33uF input ones and verified an increased low-freq. response (with local
>paging system signals).
>       I later tested the mod with UO-22 downlink and found a very significant
>improvement! From a 40-50% nominal to an 80% or more!
>
>
>       73 de FErnando, CX6DD


---
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## 29. [dsp] PSK31 Contest

From: Douglas Braun <doug.braun@intel.com>
Date: Sat, 17 Apr 1999 00:23:18 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-16465-1999.04.17-00.27.58--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

There is a PSK31 contest underway right now!

Go see: <http://www.arrl.org/arrlletter/99/0416/#psk-31>
for more details.

I didn't see any mention of it on this list...

Doug
N1OWU

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 30. [dsp] Re: PSK31 Contest

From: Eduardo Jacob <edu@kender.es>
Date: Sun, 18 Apr 1999 10:02:47 -0100
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-16599-1999.04.18-03.06.49--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>There is a PSK31 contest underway right now!
>I didn't see any mention of it on this list...

       I thougth that contesting stuff was clearly out of this mailist. I any case if somebody want
join a psk31 mailist he can do so following instructions given at the PSK31 WWW homepage at
http://aintel.bi.ehu.es/psk31.html

       Eduardo/EA2BAJ


---
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To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 31. [dsp] Re: PSK31 Contest

From: Douglas Braun <doug.braun@intel.com>
Date: Sun, 18 Apr 1999 08:09:01 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-16607-1999.04.18-08.12.58--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

When I heard about the contest (the evening it started), I ran to my basement
to try to get enough of my gear up and running to participate. (I moved
onto a new house a few weeks ago, almost all of my Ham stuff has been
in boxes since last Spetember.)  I also found newer versions of the PSK31
EVM software, since the last time I tried it was about a year ago.

But I found that the Leonid DL program would not load the newer PSK31
modem programs (or at least they didn't run for me after loading).
So, I am wondering:

1: Is DL supposed to be able to load the latest PSK31 modems?
2: Is the modem source code availble for me to try to work around this problem?

I would also like to make the modem work with my rig on the right channel, if it
doesn't already support it.

By the way, I read the documentaion on how PLXBOOT works, and I think that
I can make the Leonid BIOS2/DL system PLXBOOT-compatible.  That is, it
coould let you download a program to ANY memory locations, including
where the BIOS itself normally resides.  Maybe BIOS2 could also recognize
the PLXBOOT data protocol, but that would be more work...

Doug
N1OWU


At 10:02 AM 4/18/99 -0100, you wrote:
>>There is a PSK31 contest underway right now!
>>I didn't see any mention of it on this list...
>
>       I thougth that contesting stuff was clearly out of this mailist. I any case
>if somebody want join a psk31 mailist he can do so following instructions
>given at the PSK31 WWW homepage at http://aintel.bi.ehu.es/psk31.html
>
>       Eduardo/EA2BAJ
>
>
>
>---
>You are currently subscribed to dsp as: doug.braun@intel.com
>To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org


---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 32. [dsp] Re: PSK31 Contest

From: Rich Mulvey <mulveyr@iname.com>
Date: Sun, 18 Apr 1999 09:53:16 -0500 (EST)
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Cc: TAPR DSP Special Interest Group <dsp@lists.tapr.org>
Message-ID: <LYR3532-16611-1999.04.18-09.02.29--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On 18-Apr-99 Douglas Braun wrote:
> But I found that the Leonid DL program would not load the newer PSK31
> modem programs (or at least they didn't run for me after loading).
> So, I am wondering:
>
> 1: Is DL supposed to be able to load the latest PSK31 modems?
> 2: Is the modem source code availble for me to try to work around this
> problem?
>

   Ironically enough, I did the exact same thing the other day.  :-)  I also
saw that the psk31c modem didn't appear to work with DL.

   If you get any responses about if the source code for psk31c.asm is
available, I ( as well as others, I'm sure ) would appreciate hearing about it,
as well.

> By the way, I read the documentaion on how PLXBOOT works, and I think that
> I can make the Leonid BIOS2/DL system PLXBOOT-compatible.  That is, it
> coould let you download a program to ANY memory locations, including
> where the BIOS itself normally resides.  Maybe BIOS2 could also recognize
> the PLXBOOT data protocol, but that would be more work...

   That would certainly be convenient.  :-)

- Rich

--
Rich Mulvey
http://mulvey.dyndns.com
Amateur Radio: aa2ys@wb2wxq.#wny.ny.usa

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 33. [dsp] Re: PSK31 Contest

From: TBaggett@AustinTX.net (Tim Baggett)
Date: Sun, 18 Apr 1999 10:39:20 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-16622-1999.04.18-10.38.19--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Seems that PSK31 development is being done on DSPs, so I think it is more
than appropriate for this list. Use which you feel like.

73,
Tim

-----Original Message-----
From: Eduardo Jacob <edu@kender.es>
To: TAPR DSP Special Interest Group <dsp@lists.tapr.org>
Date: Sunday, April 18, 1999 3:04 AM
Subject: [dsp] Re: PSK31 Contest

>>There is a PSK31 contest underway right now!
>>I didn't see any mention of it on this list...
>
> I thougth that contesting stuff was clearly out of this mailist. I any
case if somebody want join a psk31 mailist he can do so following
instructions given at the PSK31 WWW homepage at
http://aintel.bi.ehu.es/psk31.html
>
> Eduardo/EA2BAJ

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 34. [dsp] Re: dsp digest: April 18, 1999

From: Mark Dell <greatmachine@yahoo.com>
Date: Mon, 19 Apr 1999 06:54:27 -0700 (PDT)
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-16757-1999.04.19-08.55.59--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

does anyone know what device to use to step down a 9V
output to a 3 V output?

_____
Do You Yahoo!?
Get your free @yahoo.com address at http://mail.yahoo.com

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 35. [dsp] TAPR activities at Dayton HamVention

From: "Greg Jones, WD5IVD" <wd5ivd@tapr.org>
Date: Mon, 19 Apr 1999 12:58:12 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-16817-1999.04.19-13.04.17--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

TAPR Dayton Activities 1999
for details visit: http://www.tapr.org/tapr/html/Fdayton.html

---

TAPR Digital Forum on Friday

The schedule for the TAPR digital forum is:

10:00 - 10:05am (5 min)
Introduction to Forum, John Ackermann, N8UR

10:05 - 10:30am (25min)
TAPR Update, Greg Jones, WD5IVD

10:30 - 11:00am (30 min)
Linux AX.25 Update, John Ackermann, N8UR

11:00 - 11:30am (30 min)
PIC Development Update, Steve Bible, N7HPR and John Hansen, W2FS

11:30 - 12:00noon (30 min)
GPS Projects, Steve Bible, N7HPR

12:00noon - 12:30pm (30 min)
Compact Flash Card Project, John Koster, W9DDD

12:30 - 1:00pm (30 min)
TAPR APRS News, Steve Dimse, K4HG and Stan Horzepa, WA1LOU

1:00pm - 1:45pm (45 min)
FHSS Radio Project Update, Tom McDermott, N5EG

---

Attending the 1999 Dayton Hamvention? Then don't miss out on PACK*BASH!

What?

An event for the digitally-inclined ham, featuring:

* Buffet dinner
* "A Little Technology Goes a Long Way" -- Keynote address
  by Dave Pederson, N7BHC
* TAPR special interest group meetings
* "Birds of a Feather" gatherings

When?

Friday evening, May 14, 1999
Doors open at 7:00 pm; dinner served at 7:30 pm
Speaker and meetings after dinner

Where?

NCR "Sugarcamp" Conference Center, 101 W. Schantz Ave. --
South of downtown Dayton, just west of Main St. (Rt 48).
Maps available on the TAPR web site (www.tapr.org) or at the
TAPR booth.

How?

Dinner requires advance registration and payment through TAPR.
Tickets will be available at the TAPR booth on Friday, though
we strongly encourage registration <before> Hamvention. The cost
is $20.00 per person, tax and tip included.

All amateurs are welcome to attend, enjoy the speaker, and
particpate in the meetings, although only those purchasing a
dinner can eat.

To register, contact:
PACK*BASH
c/o TAPR
8987-309 E. Tanque Verde Road #337
Tucson, AZ 85749-9399

Phone: (940) 383-0000
Fax: (940) 566-2544
Internet: tapr@tapr.org

Visa/Mastercard Accepted

Who?
        PACK*BASH is co-sponsored by TAPR -- Tucson Amateur Packet
        Radio, the national leader in digital communication -- and the
        Miami Valley FM Association, Dayton's packet radio club.


For more information (including maps), go to
http://www.tapr.org/tapr/html/dayton.html,
or send email to tapr@tapr.org.

You can request information via packet radio at
BASH@W8APR.#DAY.OH.USA.NOAM.
-----
Greg Jones, WD5IVD                Austin, Texas
wd5ivd@tapr.org      http://www.tapr.org/~wd5ivd



---
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To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 36. [dsp] Re: EVM improve for 9600 G3RUH demod.

From: Thomas Sailer <sailer@ife.ee.ethz.ch>
Date: Tue, 20 Apr 1999 12:26:55 +0200
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-16944-1999.04.20-05.30.53--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Douglas Braun wrote:
>
> Would it be possible to put an IIR low-freq-boost filter
> into the G3RUH code to compensate for the frequency rollof
> without having to modify the circuit?

Yeah but you'd have to match it to the transceiver,
good luck 8-)

Also, such a filter would enhance the noise...

Tom

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 37. [dsp] Re: EVM improve for 9600 G3RUH demod.

From: "Mark L. Hammond" <hammond@camel.campbell.edu>
Date: Tue, 20 Apr 1999 09:20:51 -0400
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-16959-1999.04.20-08.24.52--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

This may be apples and oranges, but I know Frank Perkins tweaked the 9600
code for the TAPR/AMSAT DSP-93 for UO-22 vs. the other birds.  Maybe Frank
is on the list and can comment?  It's been so long, the details are fading
from me ;-)

It worked quite well, btw.

73,

Mark KC4EBR

At 12:26 PM 4/20/99 +0200, you wrote:
>Douglas Braun wrote:
>>
>> Would it be possible to put an IIR low-freq-boost filter
>> into the G3RUH code to compensate for the frequency rollof
>> without having to modify the circuit?
>
>Yeah but you'd have to match it to the transceiver,
>good luck 8-)
>
>Also, such a filter would enhance the noise...
>
>Tom
>
>---

>You are currently subscribed to dsp as: HAMMOND@CAMEL.CAMPBELL.EDU
>To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
>
>
>

Mark L. Hammond  [KC4EBR]

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 38. [dsp] Re: EVM improve for 9600 G3RUH demod.

From: Douglas Braun <doug.braun@intel.com>
Date: Tue, 20 Apr 1999 10:42:51 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-16980-1999.04.20-10.46.54--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The DVM G3RUH modem always seemed to work fine for me, but
I have never had any other modem to compare it with.

Doug
N1OWU


At 09:20 AM 4/20/99 -0400, you wrote:
>This may be apples and oranges, but I know Frank Perkins tweaked the 9600
>code for the TAPR/AMSAT DSP-93 for UO-22 vs. the other birds.  Maybe Frank
>is on the list and can comment?  It's been so long, the details are fading
>from me ;-)
>
>It worked quite well, btw.
>
>73,
>
>Mark KC4EBR


---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 39. [dsp] Echo Cancellation

From: Charl Cilliers <charlc@grintek.com>
Date: Wed, 21 Apr 1999 08:37:59 +0200
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-17108-1999.04.21-02.01.00--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I have got a audio feedback problem on a radio system. The configuration is
as follows

Input 0-------|Filter|-----|A/D sampler|-----|decimate by 4|----|1800 micro
seconds delay|-|-----

|

|
Output 0------|D/A sampler|------|Filter|--------|Interpolate by 4|----- |40
dB gain|------------|

In text: The input to the system is connected via a microphone through a
filter to a A/D. The
output of the A/D is decimated by 4 and due to sampling and buffer delays
there is a 1800us
delay. After that the system has 40dB's of gain, is interpolated by 4,
filtered and played out
through a D/A. At some frequencies (when the input and output are in phase)
the output couples back into the input and a oscillation starts.

Due to the sampling and the delay in the system, the input and output
waveforms does not have
a constant phase difference - it varies with frequency and therefore a pure
phase shifter will not
work. I also tried a frequency offset, but the offset must be to big (20Hz)
before the oscillation stops and for voice that is not acceptable.

I though about using a echo cancellor but have not got any experience in

echo cancelling and was hoping someone in this news group would be able to
assist or give some advice. This problem must be common with loud speaker
systems and microphones?.
I would appreciate any information.
P.S (The system is implemented on the Motorola 56XXX series)
Regards
Charl Cilliers

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 40. [dsp] EVM and PSK31 V1.24

From: "L. J. Shepherd" <ljs@west.net>
Date: Wed, 21 Apr 1999 00:18:50 -0700
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Cc: masa@pp.inet.fi
Message-ID: <LYR3532-17111-1999.04.21-02.22.51--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello Group......

All the recent interest in PSK31 as a result of the recent QST article
sparked my
interest in firing up my EVM again in this mode. I tried the EVM code
versions of a year or two ago and had several contacts but ran into the
same critical tuning problems that I had experienced earlier. Everything
worked, but tuning required a bit of patience.

So I dl'd the latest Windows Version for the EVM ( p31evw124.zip )from
Eduardo's very nice website, and after the usual slow (for me) period of
getting new code to work, I have it up and running and would like to report
a very positive first impression.

The program is well documented, and happily has incorporated a very nice
"waterfall display" along with the older "rotary-vector type" phase tuning
indicator. This improvement makes tuning very easy accomplish and is also
useful as an indicator of nearby transmit activity.

I've had a number of contacts with the new Windows-based code on both 20
and 40 meters and am curious to know if any others of the EVM group have
tried the program. None of the stations I've worked so far are using the
EVM and most have been unfamiliar with it.

I would be very interested in hearing of any "calling or working"
frequencies that have been informally set up for PSK31 contacts in the USA
or elsewhere.  I seem to recall that European stations have several working
frequencies.

I've been off the digital air while busy at work, but have managed to
complete most of my project and so again am back with a little time to
experiment and try new EVM applications.

Hope all in "the EVM group" are well.   73,   L. J. Shepherd  K6OYY
                                              Santa Barbara California

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 41. [dsp] Re: Echo Cancellation

From: Johan Forrer <forrerj@peak.org>
Date: Wed, 21 Apr 1999 08:40:42 -0700 (PDT)
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-17164-1999.04.21-10.43.53--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Charl,

Loudspeaker howl is common in PA systems. All you need is the
appropiate phase and amplitude feedback to initiate it. I dont
think it has anything to do with your DSP implementation.

There must be very effective counter measures developed in the
PA systems world as some of these are quite immune to producing
howl. To some extent, anti-vox features in amateur radio
gear does a similar thing, i.e., suppress the effects of the

source getting back in the loop. You might want to look whether there is
anything on that topic on the Kachina DSP transceiver website.

Good luck!

Johan, KC7WW



On Wed, 21 Apr 1999, Charl Cilliers wrote:

> I have got a audio feedback problem on a radio system. The configuration is
> as follows
>
> Input 0-------|Filter|-----|A/D sampler|-----|decimate by 4|----|1800 micro
> seconds delay|-|-----
>
> |
>
> |
> Output 0------|D/A sampler|------|Filter|--------|Interpolate by 4|----- |40
> dB gain|------------|
>
> In text: The input to the system is connected via a microphone through a
> filter to a A/D. The
> output of the A/D is decimated by 4 and due to sampling and buffer delays
> there is a 1800us
> delay. After that the system has 40dB's of gain, is interpolated by 4,
> filtered and played out
> through a D/A. At some frequencies (when the input and output are in phase)
> the output couples back into the input and a oscillation starts.
>
> Due to the sampling and the delay in the system, the input and output
> waveforms does not have
> a constant phase difference - it varies with frequency and therefore a pure
> phase shifter will not
> work. I also tried a frequency offset, but the offset must be to big (20Hz)
> before the oscillation stops and for voice that is not acceptable.
>
> I though about using a echo cancellor but have not got any experience in
> echo cancelling and was hoping someone in this news group would be able to
> assist or give some advice. This problem must be common with loud speaker
> systems and microphones?.
> I would appreciate any information.
> P.S (The system is implemented on the Motorola 56XXX series)
> Regards
> Charl Cilliers
>
>
> ---
> You are currently subscribed to dsp as: FORRERJ@PEAK.ORG
> To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
>
>


---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 42. [dsp] RE: Echo Cancellation

From: Mastenbrook Gary-G13216 <g13216@email1.wes.mot.com>
Date: Wed, 21 Apr 1999 10:51:33 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-17167-1999.04.21-10.55.39--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Charl-  I thought I'd pass along a URL for a DSP simulation tool website
which has an example of a echo cancellation simulation.  This example might
be a model which you can implement and try in your system.  (Perhaps
implementing the model rather than simulating it??  ;-)  The page is:

http://www.mathworks.com/dsp/demos/echo/echotest.html

Also on this page is a .pdf file which can be downloaded giving more
information on this demo project.  Hope this helps!
73's
Gary N8DMT

P.S.  Usual statement:  This is not a plug for the above vendor's
products--I do not even have the tool.  :-(

Gary Mastenbrook, Technology Manager, Motorola Telematics
50 E. Commerce Drive, Schaumburg, IL 60173
Email: g13216@email.mot.com
Work Home Page:  http://www.mot.com
Personal Home Page: http://www.qsl.net/n8dmt


-----Original Message-----
From: Charl Cilliers [mailto:charlc@grintek.com]
Sent: Wednesday, April 21, 1999 1:38 AM
To: TAPR DSP Special Interest Group
Subject: [dsp] Echo Cancellation
Importance: High


I have got a audio feedback problem on a radio system. The configuration is
as follows

Input 0-------|Filter|-----|A/D sampler|-----|decimate by 4|----|1800 micro
seconds delay|-|-----

|

|
Output 0------|D/A sampler|------|Filter|--------|Interpolate by 4|----- |40
dB gain|------------|

In text: The input to the system is connected via a microphone through a
filter to a A/D. The
output of the A/D is decimated by 4 and due to sampling and buffer delays
there is a 1800us
delay. After that the system has 40dB's of gain, is interpolated by 4,
filtered and played out
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the output couples back into the input and a oscillation starts.

Due to the sampling and the delay in the system, the input and output
waveforms does not have
a constant phase difference - it varies with frequency and therefore a pure
phase shifter will not
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before the oscillation stops and for voice that is not acceptable.

I though about using a echo cancellor but have not got any experience in
echo cancelling and was hoping someone in this news group would be able to
assist or give some advice. This problem must be common with loud speaker
systems and microphones?.
I would appreciate any information.
P.S (The system is implemented on the Motorola 56XXX series)
Regards
Charl Cilliers


---
You are currently subscribed to dsp as: G13216@EMAIL1.WES.MOT.COM
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 43. [dsp] Re: EVM and PSK31 V1.24

From: Johan Forrer <forrerj@peak.org>
Date: Wed, 21 Apr 1999 08:55:00 -0700 (PDT)
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-17170-1999.04.21-10.58.11--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Jim,

There have been quite a bit of discussion on PSK31 frequency allocations.
Might check Eduardo's web site's archives. 14070.150 (carrier) is the
offical 20m calling frequency. They prefer USB operation, otherwise use
the "invert" function for LSB --- that only comes to play when working
QPSK though.

I have played with both the sound card version and recent EVM version;
these have identical Windows user interface with the waterfall tuning
display. As far as I can see from HF simulator tests, these programs
behave identically (see: "Recent Advances ... " on my web page
http://www.peak.org/~forrerj).

The other tidbit that you may want to explore is the recent scalings of
MT63. In particular, there is one high speed version with deep
interleaving that is really awesome. See the MT63 web page for the code.

Hope to hook up with you on the bands one of these days?

73,

Johan, KC7WW


On Wed, 21 Apr 1999, L. J. Shepherd wrote:

> Hello Group......
>
> All the recent interest in PSK31 as a result of the recent QST article
> sparked my
> interest in firing up my EVM again in this mode. I tried the EVM code
> versions of a year or two ago and had several contacts but ran into the
> same critical tuning problems that I had experienced earlier. Everything
> worked, but tuning required a bit of patience.
>
> So I dl'd the latest Windows Version for the EVM ( p31evw124.zip )from
> Eduardo's very nice website, and after the usual slow (for me) period of
> getting new code to work, I have it up and running and would like to report
> a very positive first impression.
>
> The program is well documented, and happily has incorporated a very nice
> "waterfall display" along with the older "rotary-vector type" phase tuning
> indicator. This improvement makes tuning very easy accomplish and is also
> useful as an indicator of nearby transmit activity.
>
> I've had a number of contacts with the new Windows-based code on both 20
> and 40 meters and am curious to know if any others of the EVM group have
> tried the program. None of the stations I've worked so far are using the
> EVM and most have been unfamiliar with it.
>
> I would be very interested in hearing of any "calling or working"
> frequencies that have been informally set up for PSK31 contacts in the USA
> or elsewhere.  I seem to recall that European stations have several working
> frequencies.
>
> I've been off the digital air while busy at work, but have managed to
> complete most of my project and so again am back with a little time to
> experiment and try new EVM applications.
>
> Hope all in "the EVM group" are well.   73,   L. J. Shepherd  K6OYY
>                                               Santa Barbara California
>
>
> ---
> You are currently subscribed to dsp as: FORRERJ@PEAK.ORG
> To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
>
>


---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 44. [dsp] Need help to identify files

From: tbaggett <tbaggett@austintx.net>
Date: Wed, 21 Apr 1999 20:56:58 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-17241-1999.04.21-20.59.32--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi DSPers,

I'm trying to go through the TAPR DSP FTP area, and there are some
files/directories that I am unable to identify. Can anyone provide me
with some information with the following:

What are these files? I haven't tried finding an old PKARC executable. I
really think these are for the DSP56001, as the DSP56000 was ROM based,
and I wouldn't think it had any use in the amateur community.

dsp56000/m56000_1.arc
dsp56000/m56000_2.arc


JPGs of a nice enclosure box. Anyone have any more information on it?
dsp56002/evm56k/ea2aru  (interface board & enclosure for EVM)


I have no idea what is in these two directories. I assume DSP1 and
Dalanco-spry are DSP boards of some sort.

tms320c10/dsp1
tms320c10/dalanco-spry


I would appreciate any information anyone may have. My goal is to
reorganize the DSP FTP area in the next day or two.

Regards,
Tim, AA5DF

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 45. [dsp] Re: EVM and PSK31 V1.24

From: "L. J. Shepherd" <ljs@west.net>
Date: Thu, 22 Apr 1999 01:20:53 -0700
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-17282-1999.04.22-03.24.51--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Johan,

Thanks for the comments........I continue to hear lots of PSK31 activity
and will start watching 14070.15 regularly. I do have the "invert" function
selected since my Yaesu only provides LSB via the data port. QPSK seems to
function properly, but I have yet to make any noise comparisons with
BPSK.......I believe someone recently stated that QPSK provides some
improvement over BPSK in "burst" noise conditions.

I have not tried the sound card PSK31 version, although I do have a number
of Soundblaster cards around.

Thanks for the tip about the newer versions of MT-63.......I had many
successful tests and QSO's with Les in Australia on the older version. We
preferred that over  PSK31 at the time, largely because of the tuning
issues on weak and "non-frequency-scheduled" signals. I wonder if Pawel is
involved again.......??

Hope all is well at "The Software Factory"........on another issue...do you
have any local news about how Ray Petit (W7GHM) is doing after his medical
problem ?

Thanks again for your note...........73,   JIM.   K6OYY



At 08:55 AM 4/21/99 -0700, you wrote:
>Hi Jim,
>
>There have been quite a bit of discussion on PSK31 frequency allocations.
>Might check Eduardo's web site's archives. 14070.150 (carrier) is the
>offical 20m calling frequency. They prefer USB operation, otherwise use
>the "invert" function for LSB --- that only comes to play when working
>QPSK though.
>
>I have played with both the sound card version and recent EVM version;
>these have identical Windows user interface with the waterfall tuning
>display. As far as I can see from HF simulator tests, these programs
>behave identically (see: "Recent Advances ... " on my web page
>http://www.peak.org/~forrerj).

>
>The other tidbit that you may want to explore is the recent scalings of
>MT63. In particular, there is one high speed version with deep
>interleaving that is really awesome. See the MT63 web page for the code.
>
>Hope to hook up with you on the bands one of these days?
>
>73,
>
>Johan, KC7WW
>
>
>On Wed, 21 Apr 1999, L. J. Shepherd wrote:
>
>> Hello Group......
>>
>> All the recent interest in PSK31 as a result of the recent QST article
>> sparked my
>> interest in firing up my EVM again in this mode. I tried the EVM code
>> versions of a year or two ago and had several contacts but ran into the
>> same critical tuning problems that I had experienced earlier. Everything
>> worked, but tuning required a bit of patience.
>>
>> So I dl'd the latest Windows Version for the EVM ( p31evw124.zip )from
>> Eduardo's very nice website, and after the usual slow (for me) period of
>> getting new code to work, I have it up and running and would like to report
>> a very positive first impression.
>>
>> The program is well documented, and happily has incorporated a very nice
>> "waterfall display" along with the older "rotary-vector type" phase tuning
>> indicator. This improvement makes tuning very easy accomplish and is also
>> useful as an indicator of nearby transmit activity.
>>
>> I've had a number of contacts with the new Windows-based code on both 20
>> and 40 meters and am curious to know if any others of the EVM group have
>> tried the program. None of the stations I've worked so far are using the
>> EVM and most have been unfamiliar with it.
>>
>> I would be very interested in hearing of any "calling or working"
>> frequencies that have been informally set up for PSK31 contacts in the USA
>> or elsewhere.  I seem to recall that European stations have several working
>> frequencies.
>>
>> I've been off the digital air while busy at work, but have managed to
>> complete most of my project and so again am back with a little time to
>> experiment and try new EVM applications.
>>
>> Hope all in "the EVM group" are well.   73,   L. J. Shepherd  K6OYY
>>                                               Santa Barbara California
>>
>>
>> ---
>> You are currently subscribed to dsp as: FORRERJ@PEAK.ORG
>> To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
>>
>>
>
>
>---
>You are currently subscribed to dsp as: LJS@WEST.NET
>To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
>
>
>


---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 46. [dsp] re: U0-22 and DSP

From: "Mark L. Hammond" <hammond@camel.campbell.edu>
Date: Thu, 22 Apr 1999 11:59:37 -0400
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-17308-1999.04.22-11.03.45--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I got a chuckle out of this.  Greg--can you help out our old friend Frank?
Apparently he can't post for some reason...

Be sure the read the bottom part--the meat and potato(e)s of his post!
---
Mark,

This is my birthday. I am very old now.
The least Greg can get me for my birthday
is access to contribute to the DSP forum ...

Frank

Mark L. Hammond wrote:
>
> This may be apples and oranges, but I know Frank Perkins tweaked the 9600
> code for the TAPR/AMSAT DSP-93 for UO-22 vs. the other birds.  Maybe Frank
> is on the list and can comment?  It's been so long, the details are fading
> from me ;-)
>
> It worked quite well, btw.
>
> 73,
>
> Mark KC4EBR
>
> At 12:26 PM 4/20/99 +0200, you wrote:
> >Douglas Braun wrote:
> >>
> >> Would it be possible to put an IIR low-freq-boost filter
> >> into the G3RUH code to compensate for the frequency rollof
> >> without having to modify the circuit?
> >
> >Yeah but you'd have to match it to the transceiver,
> >good luck 8-)
> >
> >Also, such a filter would enhance the noise...
> >
> >Tom
> >
> >---
> >You are currently subscribed to dsp as: HAMMOND@CAMEL.CAMPBELL.EDU
> >To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
> >
> >
> >
>
> Mark L. Hammond  [KC4EBR]
>
> ---
> You are currently subscribed to dsp as: FPERKINS@ONRAMP.NET
> To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

Not that I remember every detail right now, but what I recall is that
every
now and then scrambling lets a concentration of the same bits occur.
In UO-22, this appears to result in a fairly strong PLL-type transient
response
in the "DC level" some 30 to 50 bit periods following the bit
concentration. You
DSPers can see this by digitizing a thousand bits or so of UO-22 signal
(use a
high pass with a very low cut-off) and then run the data through a
low-pass
filter, tweaking its cut-off until the PLL-type transient respone
becomes
apparent. It can be characterized I beleive, and the slicer level
compensated
for with enough MIPs. I did not see a way to add this process to the
DSP-93,
just did not have enough MIPs left to add this process.

Should be an interesting project for the EVM, etc.

WB5IPM

Mark L. Hammond  [KC4EBR]

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 47. [dsp] re: U0-22 and DSP

From: Douglas Braun <doug.braun@intel.com>
Date: Thu, 22 Apr 1999 12:11:33 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-17314-1999.04.22-12.15.57--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 11:59 AM 4/22/99 -0400, you wrote:

I was a little confused by this.  Is the flaw in the DC level
the fault of the satellite's transmitter or the receiving radio?

Doug
N1OWU

>Not that I remember every detail right now, but what I recall is that
>every
>now and then scrambling lets a concentration of the same bits occur.
>In UO-22, this appears to result in a fairly strong PLL-type transient
>response
>in the "DC level" some 30 to 50 bit periods following the bit
>concentration. You
>DSPers can see this by digitizing a thousand bits or so of UO-22 signal
>(use a
>high pass with a very low cut-off) and then run the data through a
>low-pass
>filter, tweaking its cut-off until the PLL-type transient respone
>becomes
>apparent. It can be characterized I beleive, and the slicer level
>compensated
>for with enough MIPs. I did not see a way to add this process to the
>DSP-93,
>just did not have enough MIPs left to add this process.
>


---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 48. [dsp] re: U0-22 and DSP

From: "Mike Murphree" <n4cnw@hotmail.com>
Date: Thu, 22 Apr 1999 10:34:17 PDT
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-17315-1999.04.22-12.38.15--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

It's an artifact of the scrambling circuit used in the
G3RUH modem and compatibles. A frequency response below
100 Hz is required to adequately handle the modulation
signal. This affects both the receiver and the transmitter.
I believe the suggested mod for the EVM involved increasing
the value of the coupling capacitor which lowers its low
frequency cutoff point.

Mike N4CNW


>From: Douglas Braun <doug.braun@intel.com>
>Reply-To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
>To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
>Subject: [dsp] re: U0-22 and DSP
>Date: Thu, 22 Apr 1999 12:11:33 -0500
>
>At 11:59 AM 4/22/99 -0400, you wrote:
>
>I was a little confused by this.  Is the flaw in the DC level
>the fault of the satellite's transmitter or the receiving radio?
>
>Doug
>N1OWU
>

>>Not that I remember every detail right now, but what I recall is
that
>>every
>>now and then scrambling lets a concentration of the same bits occur.
>>In UO-22, this appears to result in a fairly strong PLL-type
transient
>>response
>>in the "DC level" some 30 to 50 bit periods following the bit
>>concentration. You
>>DSPers can see this by digitizing a thousand bits or so of UO-22
signal
>>(use a
>>high pass with a very low cut-off) and then run the data through a
>>low-pass
>>filter, tweaking its cut-off until the PLL-type transient respone
>>becomes
>>apparent. It can be characterized I beleive, and the slicer level
>>compensated
>>for with enough MIPs. I did not see a way to add this process to the
>>DSP-93,
>>just did not have enough MIPs left to add this process.
>>
>
>
>---
>You are currently subscribed to dsp as: N4CNW@MINDSPRING.COM
>To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
>

_____
Get Free Email and Do More On The Web. Visit http://www.msn.com

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 49. [dsp] re: UO-22 and DSP

From: "Steven R. Bible" <srbible@gate.net>
Date: Thu, 22 Apr 1999 16:46:52 -0400
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-17342-1999.04.22-15.50.08--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I think it's UO-22's.  I remember the AEA DSP-2232 had a UO-22 selection in
its modem menu.  I found this curious as it also had a 9600 bps G3RUH
selection.  I remember reading some time ago that UO-22 was unique in some
fashion.

Perhaps a post on the AMSAT-BB list will bring an answer to this quesiton.

- Steve, N7HPR


At 12:11 PM 4/22/99 -0500, you wrote:
>At 11:59 AM 4/22/99 -0400, you wrote:
>
>I was a little confused by this.  Is the flaw in the DC level
>the fault of the satellite's transmitter or the receiving radio?
>
>Doug
>N1OWU
>
>>Not that I remember every detail right now, but what I recall is that
>>every
>>now and then scrambling lets a concentration of the same bits occur.
>>In UO-22, this appears to result in a fairly strong PLL-type transient
>>response
>>in the "DC level" some 30 to 50 bit periods following the bit
>>concentration. You
>>DSPers can see this by digitizing a thousand bits or so of UO-22 signal
>>(use a
>>high pass with a very low cut-off) and then run the data through a
>>low-pass
>>filter, tweaking its cut-off until the PLL-type transient respone
>>becomes
>>apparent. It can be characterized I beleive, and the slicer level
>>compensated
>>for with enough MIPs. I did not see a way to add this process to the

>>DSP-93,
>>just did not have enough MIPs left to add this process.
>>
>
>
>---
>You are currently subscribed to dsp as: SRBIBLE@GATE.NET
>To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
>
>
>

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 50. [dsp] re: UO-22 and DSP

From: "Stacey E. Mills, M.D." <w4sm@cstone.net>
Date: Thu, 22 Apr 1999 16:55:03 -0400
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-17344-1999.04.22-15.59.09--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 04:46 PM 4/22/1999 -0400, Steven R. Bible wrote:
>I think it's UO-22's.  I remember the AEA DSP-2232 had a UO-22 selection in
>its modem menu.  I found this curious as it also had a 9600 bps G3RUH
>selection.  I remember reading some time ago that UO-22 was unique in some
>fashion.
>
>Perhaps a post on the AMSAT-BB list will bring an answer to this quesiton.
>
>- Steve, N7HPR

I'll add my $0.02.
The UO-22's 9600 baud downlink signal is known to be slightly "distorted."
I don't remember the details but the signal pattern for the frequency
shifts is not quite to spec.  Several modems have been modified to variably
accomodate this, as Steve mentioned.

I've become a firm user/believer of the EVM for 9600 baud sats.  The TO-31
downlink is virtually 100% all the time.  KO-25 runs 90-95%, and UO-22
typically runs in the 80-85% efficiency range, but shows more fluctuations.

I'm sure Chris Jackson could give the exact specs. on the UO-22
transmitter, but he's a bit tied up at the moment with their new sat, retro
numbered as UO-12.

--
_____________________________________________________________
Stacey E. Mills, M.D.  WEB:  http://www.people.virginia.edu/~sem2r/
Charlottesville, VA    E-Mail: sem2r@virginia.edu or w4sm@cstone.net
                              Office Phone: 804-982-4406  Fax: 804-924-8767
_____________________________________________________________

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 51. [dsp] re: UO-22 and DSP]

From: "Mark L. Hammond" <hammond@camel.campbell.edu>
Date: Thu, 22 Apr 1999 20:43:41 -0400
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-17385-1999.04.22-19.47.44--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Another forward for Frank...we have to get his posting privis fixed soon :)

Mark

>Douglas Braun wrote:
>>
>> At 11:59 AM 4/22/99 -0400, you wrote:
>>
>> I was a little confused by this.  Is the flaw in the DC level
>> the fault of the satellite's transmitter or the receiving radio?

>>
>> Doug
>> N1OWU


You have to be fairly careful when applying FSK
modulation to a PLL-based transmitter. Basically,
the modulation rate has to be "fast" compared
to the PLL bandwidth, otherwise it will try to
correct out the modulation.

It appears that UO-22's TX PLL interacts with the
modulation when the scrambling scheme outputs a
"concentration" of bits of the same value. It helps
to have a very low cut-off frequency in the coupling
between the radio and the DSP for UO-22.

If I can figure out where I put those old files of
filtered UO-22 modulation, I will post a jpg of them.

Regards,

WB5IPM



Mark L. Hammond   [KC4EBR]

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 52. [dsp] re: UO-22 and DSP

From: "L. J. Shepherd" <ljs@west.net>
Date: Fri, 23 Apr 1999 00:20:07 -0700
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-17421-1999.04.23-02.24.11--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Doug,   It's a UO-22 TX audio problem......I have some old documentation on
it and will try to find it........JIM.  K6OYY

At 12:11 PM 4/22/99 -0500, you wrote:
>At 11:59 AM 4/22/99 -0400, you wrote:
>
>I was a little confused by this.  Is the flaw in the DC level
>the fault of the satellite's transmitter or the receiving radio?
>
>Doug
>N1OWU
>
>>Not that I remember every detail right now, but what I recall is that
>>every
>>now and then scrambling lets a concentration of the same bits occur.
>>In UO-22, this appears to result in a fairly strong PLL-type transient
>>response
>>in the "DC level" some 30 to 50 bit periods following the bit
>>concentration. You
>>DSPers can see this by digitizing a thousand bits or so of UO-22 signal
>>(use a
>>high pass with a very low cut-off) and then run the data through a
>>low-pass
>>filter, tweaking its cut-off until the PLL-type transient respone
>>becomes
>>apparent. It can be characterized I beleive, and the slicer level
>>compensated
>>for with enough MIPs. I did not see a way to add this process to the
>>DSP-93,
>>just did not have enough MIPs left to add this process.
>>
>
>
>---
>You are currently subscribed to dsp as: LJS@WEST.NET
>To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
>
>
>

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 53. [dsp] PSK31 for Windows and SB version 1.06 available.

From: Eduardo Jacob <edu@kender.es>
Date: Mon, 26 Apr 1999 00:27:37 -0100
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-17730-1999.04.25-17.32.03--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>From Peter
>>>

PSK31SBW version 1.06 is now available for download from the web locations shown below.

ftp://det.bi.ehu.es/pub/ham/psk31/p31sbw106.zip  (Best from EU)
http://www.kender.es/~edu/download/p31sbw106.zip (Best from USA)

The changes on this version are:

1) The QPSK receive decoder was previously a "hard decision" decoder and is now a "soft decision" decoder. What this means is an improvement in QPSK copy. It's rather difficult to say exactly how much of an improvement it is, but on the bench with random errors it's nearly twice as good as before. On-air it will not be so good.

2) The squelch action has been enhanced so that not only does it pull-in (instantly) when the signal idles, but will pull-in (after about a second) when the signal is sending traffic and is sufficiently clean to copy. Not only does it drop out (instantly) when the signal sends a carrier (the squelch tail), but will also drop out (after about a second) when there is no detectable signal in the noise. The single squelch button has been replaced with a squelch selector which toggles between "auto", where it performs as described, and "off" where the signal is copied all the time regardless. This change will remove the need to hit the Squelch button if you tune in a signal that's already sending or a signal fades out before it finishes.

3) The AFC, as well as slowly correcting any drift in the signal, now also corrects completely any off-tune error at the instant that the squelch pulls-in. This means that after tuning on the main receiver in 10Hz steps, for example, or after clicking in the waterfall, the signal will be pulled-in precisely on-tune as it starts printing.

4) The way that the F5-F8 keys operate has been changed slightly to eliminate a lock-out condition that could occur if some of these keys were pressed in rapid succession.

73
Peter

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 54. [dsp] New Macintosh program for PSK31

From: Eduardo Jacob <edu@kender.es>
Date: Mon, 26 Apr 1999 21:28:43 -0100
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-17854-1999.04.26-14.33.10--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

There is a RX only (for now) shareware program called Multimode for the macintosh. You can take a look at it's homepage:

        http://ww%20w.blackcatsystems.com/software/multimode.html

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 55. [dsp] Oops small error in URL of Macintosh program for PSK31

From: Eduardo Jacob <jtpjatae@bicc00.bi.ehu.es>
Date: Tue, 27 Apr 1999 09:39:44 +0200
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-17952-1999.04.27-02.49.45--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The correct URL is

        http://www.blackcatsystems.com/software/multimode.html

        Eduardo


---
Eduardo EA2BAJ
DSP and HAM:   http://det.bi.ehu.es/~jtpjatae/ham.html
VHF PACKET: EA2BAJ @ EA2URV
PGP Key avlb: Send email w/subject: PGPKEY
fingerprint : D8 FA 54 49 F7 40 BA AA 09 1A 73 40 A4 26 ED BD

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 56. [dsp] Re: Need help to identify files

From: Lyle Johnson <lylej@azstarnet.com>
Date: Wed, 28 Apr 1999 19:56:42 -0700
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-18193-1999.04.28-22.42.55--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>dsp56000/m56000_1.arc
>dsp56000/m56000_2.arc

DSP56K-series software tools, early release.

>JPGs of a nice enclosure box. Anyone have any more information on it?
>dsp56002/evm56k/ea2aru  (interface board & enclosure for EVM)

Part of the basis for the TAPR EVM enclosure kit.

>I have no idea what is in these two directories. I assume DSP1 and
>Dalanco-spry are DSP boards of some sort.
>
>tms320c10/dsp1
>tms320c10/dalanco-spry

yes.  DSP1 is the orignal TAPR/AMSAT DSP project, only a few produced.

Dalanco-spry was a TMS320C10 PC card that was used by Tom Clark and Bob
McGwier to stir up interest in Amateur DSP work back in the late 1980's.

>I would appreciate any information anyone may have. My goal is to
>reorganize the DSP FTP area in the next day or two.
>
>Regards,
>Tim, AA5DF

Enjoy!

Lyle


---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 57. [dsp] re: U0-22 and DSP

From: Lyle Johnson <lylej@azstarnet.com>
Date: Wed, 28 Apr 1999 20:01:15 -0700
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-18194-1999.04.28-22.42.58--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

My unreliable memory suggests to me that it is the result of an AC-coupled
transmitter modulator in the satellite.

At 12:11 PM 4/22/99 -0500, you wrote:
>At 11:59 AM 4/22/99 -0400, you wrote:
>
>I was a little confused by this.  Is the flaw in the DC level
>the fault of the satellite's transmitter or the receiving radio?
>
>Doug
>N1OWU

Lyle

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 58. [dsp] Re: Suggestions for a new list member?

From: forrerj@peak.org (Johan Forrer)
Date: Wed, 28 Apr 1999 21:28:53 -0800
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-18199-1999.04.28-23.35.23--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

```
Tom,

My EVM package is a good place to start, but I recommend you
grab a copy of N1OWU's package for the EVM from his web
page (http://www.erols.com/dougbert/). He has made a number
of improvements that is worth having.

You come with a good background ... the EVM is very much
a microcontroller; the mathematical theory of making DSP
magic work is what makes it different. That also have been the main
obsticle for many newcomers. Include some clever programming
tricks and it makes for a lot of fun!

Having a collection of ready-made applications to play with
helps a lot. I would recommend tackling the simplest of programs,
i.e., getting an audio capture/playback loop to work. That will get
your feet wet with the assembler/debugger and you can fill in the
bit that fits inbetween as you get the gist of it.

Good luck!

Johan, KC7WW

(P.S. there may be some other DSP items of interest on my web page:
http://www.peak.org/~forrerj)


>I just joined this list and have a few questions.
>
>I have a 56002 EVM that's just been collecting dust and would like to use it
>to try to treat the QRN from some high voltage power lines nearby at my QTH.
>I have no experience with DSP but quite a bit with embedded controllers
>generally. I hate to admit it but my math skills never were all that good
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>they're worse now.
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>I've downloaded the stuff from KC7WW and browsed through some other stuff at
>the tapr site. My main question is where should I begin? I would like to get
>to know DSP a lot better, but would also love to find something canned that
>I can just download to my DSP board and run with. It would also be fun to
>just play with different CW and SSB filters. It looks like the KC7WW stuff
>may be just that, but there's so much and I noticed some of it isn't all
>that new, so I thought I'd ask someone who's been around here longer for
>some advice on where to start and how to proceed.
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>Someone want to take a stab at this?
>
>Thanks a lot!
>
>- Tom
>_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/
>   Tom Scott     -    Wyle Electronics    -    KD7DMH
>   10300 SW Nimbus Ave #PB, Portland, OR 97223
>   503-603-1931 - TEL   503-684-6620 - FAX
>   503-504-1583 - Cell    503-604-8651 - Pager
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>
>---
>You are currently subscribed to dsp as: FORRERJ@PEAK.ORG
>To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
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To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 59. [dsp] Re: Suggestions for a new list member?

From: "Tom Scott" <tscott@eni.net>
Date: Wed, 28 Apr 1999 21:44:53 -0700
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-18202-1999.04.28-23.52.24--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

```
Johan,

Is there a package of software for the 56002 EVM that consists of noise
cancellation and SSB / CW filters for Ham radio that I could just program
into a flash part and turn it on? That might be nice while I'm experimenting
with something more custom tailored.

Thanks!

- Tom
_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/
   Tom Scott     -    Wyle Electronics    -    KD7DMH
   10300 SW Nimbus Ave #PB, Portland, OR 97223
   503-603-1931 - TEL   503-684-6620 - FAX
   503-504-1583 - Cell    503-604-8651 - Pager
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-----Original Message-----
From:   bounce-dsp-8821@lists.tapr.org [mailto:bounce-dsp-8821@lists.tapr.org]
On Behalf Of Johan Forrer
Sent:   Wednesday, April 28, 1999 10:29 PM
To:     TAPR DSP Special Interest Group
Subject:        [dsp] Re: Suggestions for a new list member?

Tom,

My EVM package is a good place to start, but I recommend you
grab a copy of N1OWU's package for the EVM from his web
page (http://www.erols.com/dougbert/). He has made a number
of improvements that is worth having.

You come with a good background ... the EVM is very much
a microcontroller; the mathematical theory of making DSP
magic work is what makes it different. That also have been the main
obsticle for many newcomers. Include some clever programming
tricks and it makes for a lot of fun!

Having a collection of ready-made applications to play with
helps a lot. I would recommend tackling the simplest of programs,
i.e., getting an audio capture/playback loop to work. That will get
your feet wet with the assembler/debugger and you can fill in the
bit that fits inbetween as you get the gist of it.

Good luck!

Johan, KC7WW

(P.S. there may be some other DSP items of interest on my web page:
http://www.peak.org/~forrerj)


>I just joined this list and have a few questions.
>
>I have a 56002 EVM that's just been collecting dust and would like to use
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>to try to treat the QRN from some high voltage power lines nearby at my
QTH.
>I have no experience with DSP but quite a bit with embedded controllers
>generally. I hate to admit it but my math skills never were all that good
>and its been quite a few years since I've done anything like calculus, so
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get
>to know DSP a lot better, but would also love to find something canned that
>I can just download to my DSP board and run with. It would also be fun to
>just play with different CW and SSB filters. It looks like the KC7WW stuff
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>   Tom Scott     -    Wyle Electronics    -    KD7DMH
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>

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You are currently subscribed to dsp as: tscott@eni.net
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

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You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 60. [dsp] FS: 17 Ariel DSP boards dual 320C31

From: "Norman Gillaspie" <norman@pcseng.com>
Date: Wed, 28 Apr 1999 22:17:14 -0700
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-18220-1999.04.29-00.16.22--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I have a qty of 17 Ariel Dual processor ISA bus DSP cards. These cards have
dual 320C31 with 2 megabytes of of zero wait state ram and two RS-422 ports.
I am making them available to hams at 75.00 each. I can email a block
diagram if interested. You can use them as is or remove the parts.

Norman

PCS Engineering
Norman Gillaspie
325M Sharon Park Dr. #210
Menlo park, Ca. 94025
Tel 650-854-5263
Fax 650-854-5445
Email norman@pcseng.com

> -----Original Message-----
> From: bounce-dsp-8831@lists.tapr.org
> [mailto:bounce-dsp-8831@lists.tapr.org]On Behalf Of Tom Scott
> Sent: Wednesday, April 28, 1999 9:02 PM
> To: TAPR DSP Special Interest Group
> Subject: [dsp] Suggestions for a new list member?
>
>
> I just joined this list and have a few questions.
>
> I have a 56002 EVM that's just been collecting dust and would
> like to use it
> to try to treat the QRN from some high voltage power lines nearby
> at my QTH.
> I have no experience with DSP but quite a bit with embedded controllers
> generally. I hate to admit it but my math skills never were all that good

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> and its been quite a few years since I've done anything like calculus, so
> they're worse now.
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> to know DSP a lot better, but would also love to find something
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> I can just download to my DSP board and run with. It would also be fun to
> just play with different CW and SSB filters. It looks like the KC7WW stuff
> may be just that, but there's so much and I noticed some of it isn't all
> that new, so I thought I'd ask someone who's been around here longer for
> some advice on where to start and how to proceed.
>
> Someone want to take a stab at this?
>
> Thanks a lot!
>
> - Tom
> _/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/
>    Tom Scott     -    Wyle Electronics    -    KD7DMH
>    10300 SW Nimbus Ave #PB, Portland, OR 97223
>    503-603-1931 - TEL   503-684-6620 - FAX
>    503-504-1583 - Cell    503-604-8651 - Pager
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>
> ---
> You are currently subscribed to dsp as: norman@pcseng.com
> To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
>
>


---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
```

## 61. [dsp] RE: FS: 17 Ariel DSP boards dual 320C31

From: "Tom Scott" <tscott@eni.net>
Date: Wed, 28 Apr 1999 22:30:14 -0700
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-18223-1999.04.29-00.35.02--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

```
Thanks, but I think I want to work with the Motorola parts for now. Besides
I already have this board and there seems to be quite a bit of software
written for it.
- Tom
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   Tom Scott     -    Wyle Electronics    -    KD7DMH
   10300 SW Nimbus Ave #PB, Portland, OR 97223
   503-603-1931 - TEL   503-684-6620 - FAX
   503-504-1583 - Cell    503-604-8651 - Pager
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-----Original Message-----
From:   bounce-dsp-8821@lists.tapr.org [mailto:bounce-dsp-8821@lists.tapr.org]
On Behalf Of Norman Gillaspie
Sent:   Wednesday, April 28, 1999 10:17 PM
To:     TAPR DSP Special Interest Group
Subject:        [dsp] FS: 17 Ariel DSP boards dual 320C31

I have a qty of 17 Ariel Dual processor ISA bus DSP cards. These cards have
dual 320C31 with 2 megabytes of of zero wait state ram and two RS-422 ports.
I am making them available to hams at 75.00 each. I can email a block
diagram if interested. You can use them as is or remove the parts.

Norman

PCS Engineering
Norman Gillaspie
325M Sharon Park Dr. #210
Menlo park, Ca. 94025
Tel 650-854-5263
Fax 650-854-5445
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Email norman@pcseng.com


> -----Original Message-----
> From: bounce-dsp-8831@lists.tapr.org
> [mailto:bounce-dsp-8831@lists.tapr.org]On Behalf Of Tom Scott
> Sent: Wednesday, April 28, 1999 9:02 PM
> To: TAPR DSP Special Interest Group
> Subject: [dsp] Suggestions for a new list member?
>
>
> I just joined this list and have a few questions.
>
> I have a 56002 EVM that's just been collecting dust and would
> like to use it
> to try to treat the QRN from some high voltage power lines nearby
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> - Tom
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>    Tom Scott     -    Wyle Electronics    -    KD7DMH
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> ---
> You are currently subscribed to dsp as: norman@pcseng.com
> To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
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You are currently subscribed to dsp as: tscott@eni.net
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org




---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
```

## 62. [dsp] Suggestions for a new list member?

From: "Tom Scott" <tscott@eni.net>
Date: Wed, 28 Apr 1999 21:02:15 -0700
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-18197-1999.04.28-23.07.23--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

```
I just joined this list and have a few questions.

I have a 56002 EVM that's just been collecting dust and would like to use it
to try to treat the QRN from some high voltage power lines nearby at my QTH.
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and its been quite a few years since I've done anything like calculus, so
```

they're worse now.

I've downloaded the stuff from KC7WW and browsed through some other stuff at the tapr site. My main question is where should I begin? I would like to get to know DSP a lot better, but would also love to find something canned that I can just download to my DSP board and run with. It would also be fun to just play with different CW and SSB filters. It looks like the KC7WW stuff may be just that, but there's so much and I noticed some of it isn't all that new, so I thought I'd ask someone who's been around here longer for some advice on where to start and how to proceed.

Someone want to take a stab at this?

Thanks a lot!

- Tom


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   Tom Scott     -    Wyle Electronics    -    KD7DMH
   10300 SW Nimbus Ave #PB, Portland, OR 97223
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   503-504-1583 - Cell    503-604-8651 - Pager
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To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org


## 63. [dsp] Re: Suggestions for a new list member?

From: Johan Forrer <forrerj@peak.org>
Date: Thu, 29 Apr 1999 08:36:06 -0700 (PDT)
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-18281-1999.04.29-10.39.10--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Tom,

Yes there are a couple of noise reduction programs that will run on the EVM. The W9GR-style LMS and Wiener filters, but also look for the SP9VRC spectral subtraction and long correlator. Those are all in my EVM56K3.ZIP file also in the N1OWU package (I think).

Follow the instructions in N1OWU's package for making just the kind of FLASH contents that you want on boot up. It's really simple.

Another hint for a newcomer; please read the archives for this list on recent discussions of load impedances for the radio interface for the EVM.

Have fun!

Johan, KC7WW


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## 64. [dsp] ARRL & TAPR 1999 DCC Announcement

From: Greg Jones <wd5ivd@tapr.org>
Date: Thu, 29 Apr 1999 16:00:10 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-18335-1999.04.29-15.57.23--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

1999 ARRL and TAPR Digital Communications Conference
September 24-26, 1999
Phoenix, Arizona

Full announcement and details can be found at: http://www.tapr.org/dcc

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The 1999 ARRL and TAPR Digital Communications Conference will be held September 24-26, 1999 in Phoenix, Arizona. This year's

conference location is just minutes away from the Phoenix Sky Harbor International Airport (PHX).

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Symposia, Seminars, Banquet

In addition to the presentation of papers on Saturday, three symposia/seminars will be held. These sessions are provided to allow those with additional time and interest to make the most of the Digital Communications Conference. For those who may have interest in just one symposium or seminar, registration for the conference is not required to attend these activities. This allows maximum flexibility for those who may want to participate during the Digital Communications Conference, but do not have an entire weekend to devote to the event.

The Third APRS National Symposium will be held on Friday and will be moderated by Steve Dimse, K4HG (the developer of javAPRS). It will likely include many APRS software authors, such as Bob Bruninga, WB4APR (the father of APRS), Keith Sproul, WU2Z, Mark Sproul, KB2ICI (the developers of MacAPRS and WinAPRS), Brent Hildebrand, KH2Z (the developer of APRSPLUS), Mike Musick, N0QBF (developer of PocketAPRS), and other nationally-known APRS leaders. Join this group for the afternoon and evening for in-depth discussions and presentations on the current and future status of APRS. This is a unique opportunity to gain insight into this fast-growing digital aspect of amateur operations that combines computers, packet radio, and GPS (Global Positioning System).

Starting late Friday afternoon, a half-day technical seminar will be held. In the past this seminar has covered topics such as RF, DSP, Advanced Networking Topologies and other stimulating topics.

On Saturday night the DCC Banquet will be held. This year the conference is proud to have Geoff Baehr, N6LXA, Sun Microsystems Chief Network Officer at the banquet to speak. Sun Microsystems has been doing some very exciting things in networking over the years and the talk should be an interesting one. After the banquet there will be time for special interest group gatherings.

The Sunday morning seminar will be focused on PIC development, design, and programming. This five-and-a-half hour seminar will focus on the things you need to know now in order to understand and begin to participate in PIC development. PIC processors are becoming very important in various project designs and implementations. This seminar will by presented by the TAPR PIC Development team.

---

Fourth Annual ARRL and TAPR DCC Student Papers Award

ARRL and TAPR especially welcome papers from full-time students to compete for the fourth annual student papers award. Two $500 travel awards may be given, one in each of the following categories: a) best technical/theory-oriented paper by a student, and b) best educational or community-oriented application paper by a student. The paper should relate directly to a wireless digital communication topic (see the guidelines for more information). Papers co-authored by educators or telecommunications professionals are also eligible for this award as long as a student is the first author. The deadline for receipt of finished student paper manuscript is July 10, 1999. Please note that this deadline is different from the general conference paper submission date. For full details and paper guidelines contact TAPR or browse to http://www.tapr.org/dcc.

---

Call for Conference Proceeding Papers

Anyone interested in digital communications is invited to submit a paper for publication in the Conference Proceedings. Presentation at the conference is not required for publication. The primary purpose of the conference is to communicate ideas and techniques regarding digital communications. Papers written in an informal style are welcome, as well as those written to academic standards. If you know of someone who is doing great things with digital communications, be sure to tell them about this! Papers are due by August 9, 1999, and should be submitted to Maty Weinberg, ARRL, 225 Main Street, Newington, CT 06111, or via e-mail to lweinberg@arrl.org. The paper

submission guidelines are available on-line (http://www.tapr.org/dcc).

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International Co-Host

PRUG (Packet Radio User Group of Japan) will be the International co-host for a second year running. PRUG will be hosting an informal social Friday evening before their seminar and symposium is held. Visit http://www.prug.or.jp for more information about the organization.

---

Full information on the conference and hotel information can be obtained by contacting Tucson Amateur Packet Radio, 8987-309 E. Tanque Verde Road #337, Tucson, AZ 85749-9399, phone 940-383-0000, fax 940-566-2544, e-mail tapr@tapr.org, browse www.tapr.org/dcc.

Sincerely,
Greg Jones, WD5IVD, TAPR Conference Chair
Steve Stroh, N8GNJ, Conference Manager
Dan Meredith, N7MRP, Local Host Liaison
Keith Justice, KF7TP, Local Host Liaison

Note: If you need conference handouts or flyers for ham club meetings, contact TAPR to get what you need!

---

Hotel Information

Conference presentations, meetings, and seminars will be held at the Holiday Inn Select Airport. Special DCC rooms rates are $69/single and $79/double per night. When making reservations with the hotel, be sure to indicate you are attending the ARRL and TAPR DCC in order to get the discount. It is highly recommended that you book your room prior to arriving. A block of 75 rooms is reserved until August 22, 1999. After the 75 rooms are booked, rooms will only be available in nearby hotels, so be sure to book your rooms early! The hotel provides transportation to and from the Phoenix Sky Harbor International Airport. Please contact the hotel to arrange specific transportation needs.

Holiday Inn Select Airport (conference hotel)
4300 E Washington
Phoenix, AZ 850234
Phone 602-273-7778, fax 602-286-1109

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Tucson Amateur Packet Radio
8987-309 E Tanque Verde Rd #337 * Tucson, Az * 85749-9399
e-mail: tapr@tapr.org web: <http://www.tapr.org/>
ftp: ftp.tapr.org
phone: 940-383-0000 fax: 940-565-2544


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# May 1999

Original source file: dsp.9905
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/dspsig/mail_archive/dsp.9905

## 1. [dsp] Re: Suggestions for a new list member?

From: "Thomas M. Alldread" <tma@mail.island.net>
Date: Sat, 01 May 1999 12:42:18 -0700
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-18627-1999.05.01-14.46.47--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Greetings Tom

I don't think I am going to have any trouble remembering your first name, (:/).

> I have a 56002 EVM that's just been collecting dust and would like to use it
> I have no experience with DSP but quite a bit with embedded controllers

Last Fall I was at the same point you are at. Now I am routinely using my EVM with my HF rig for psk31 communications, filtering, noise reduction, carrier cancellation and as a two tone sine wave test generator. I have written a little 56000 asm code but have an awful lot to learn, (;/).

First I built up an EVM radio interface which provides some isolation and protection for the EVM card as well as providing dual rig interface connections with potentiometers for adjusting the TX/RX audio levels. As you probably already know TAPR offers an EVMRI kit. I decided to home brew my interface based on their design ( their kits were not yet available at the time ) and included some changes that I preferred. The TAPR kit schematics in pdf file format can be downloaded from their web site. I think the TAPR kit comes complete with a start up software package and a manual. I imagine this kit would provided the most time efficient method to get your EVM interfaced to your ham gear and ready to run amateur related applications.

>
> I've downloaded the stuff from KC7WW and browsed through some other stuff at
> the tapr site. My main question is where should I begin? I would like to get
> to know DSP a lot better, but would also love to find something canned that
> I can just download to my DSP board and run with. It would also be fun to
> just play with different CW and SSB filters.

I got my start with the Douglas Braun, N1OWU package. There may be a great deal of overlap between his and Johan, KC7WW's package which is also very helpful. Doug has fixed up a suite of programs which run under his improved EVM BIOS2. The program of your choice can be loaded into the EEPROM and booted with the bios during cold boot. I found Doug's readme file very helpful to get my EVM running and self booting from the EEPROM. I think the TAPR EVMRI manual (which came out after I got my EVM going) would be worth checking out for additional documentation support.

I have experimented a bit with an EVM noise reduction program called QRMQRN.ASM which is in N1OWU's package. It can be configured for either random noise or carrier cancellation modes. It seems to do a pretty effective job of canceling random noise but it does seem to distort the audio. There are some response parameters which can be varied to change the characteristics. It appears these parameters have a significant effect and I need to experiment with them further. I do not know how effective the QRN mode would be with electrical noise as it may be more periodic than random.

I have written (with N1OWU's help!) a textual user interface for N1OWU's improved version of 'Tone' which I named 'TestTone'. I think it should be a useful tool for setting up levels and IMD testing EVM radio interfaces. It is dual test tone generator which can be controlled with a terminal program (I use Windows95 HyperTerminal) while it is running by via the SCI port . It allows you to send single or dual tones at any frequency between 1 and 20,000 Hz to either left, right or both channels at any level between 1 and 2800 mV p-t-p. Additionally the CODEC output attenuator values can be adjusted and the logic state of

the port B output bits can be toggled. I intend to add a sweep generator
function and a current status dump when I get time. If you would like a
copy of the current version executable file I would be pleased to email
it to you.

        I hope this information is of some help!

73 & Enjoy,

Tom, VE7TMA

tma@island.net

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 2. [dsp] Searching h/w for 56002EVM

From: "Bjoern Stokke" <bstokke@c2i.net>
Date: Sun, 2 May 1999 10:04:13 +0200
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-18718-1999.05.02-03.11.50--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi,
I have a problem in locating a source for:
CS4215KL 44 pin PLCC Codec, as used on the EVM56002 board.
in qty. :one.

Retailers contacted ,no joy so far:
Mouser,
RF Parts,
and in Europe,
Segor.de

Any pointers?

rgds
Bjoern Stokke  LA5ZL (ko-25)
e.mail: bstokke@c2i.net

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 3. [dsp] Re: Searching h/w for 56002EVM

From: Charles Brain <chbrain@dircon.co.uk>
Date: Sun, 02 May 1999 10:15:41 +0100
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-18719-1999.05.02-04.22.05--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Bjoern Stokke wrote:
>
> Hi,
> I have a problem in locating a source for:
> CS4215KL 44 pin PLCC Codec, as used on the EVM56002 board.
> in qty. :one.
>

Their sales in Norway are handled by

Norway
Henaco A/S
Trondheimsvn 436
Boxs 126
Kalbakken
N-0902 Oslo, Norway
Ph: +4722917900
Fax: +4722917901

However you might try MAPLIN in the UK, they don't have this device in
their catalogue but they have the CS4218, i.e they handle Crystal products.
They can get non catalogue items.

Call their "Do You Do Line" on

+44 1702 556001

They managed to get some Motorola codecs for me, albeit at a price.

- Charles G4GUO

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 4. [dsp] 16 Bit full duplex sound card

From: Charles Brain <chbrain@dircon.co.uk>
Date: Sun, 02 May 1999 10:22:18 +0100
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-18720-1999.05.02-04.28.41--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi,

Can anyone recommend a good/proper "FULL DUPLEX" 16 bit sound card.

It must also that has enough info to program it outside Windows as I
want to use for a dedicated PC based DSP engine (I am using Extended DOS
with the DJGPP tools not Linux).

- Charles G4GUO

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 5. [dsp] Re: Searching h/w for 56002EVM

From: TBaggett@AustinTX.net (Tim Baggett)
Date: Sun, 2 May 1999 14:32:17 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-18758-1999.05.02-14.29.15--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>Hi,
>I have a problem in locating a source for:
>CS4215KL 44 pin PLCC Codec, as used on the EVM56002 board.
>in qty. :one.
>

Check for the Crystal CS4218. i *believe* it is pin for pin and software
compatible. In fact, go to the Motorola DSP web site
http://www.mot.com/SPS/DSP and look for an application note AN1790. Is
details the use of the CS4218 with the Motorola DSP5630x EVMs. It covers the
DSP56002 EVM nearly 100% as well, primarily with the exception of the ESSI
RX/TX last slot interrupts. Evidently, motorola is now using the CS4218 with
their EVM's.

The app note can be found at:
http://www.mot.com/pub/SPS/DSP/LIBRARY/APPNOTES/AN1790.pdf
I recommend it to anyone wishing to understand how the EVM's DSP are
interfaced with the CODEC.

73,
Tim, AA5DF

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 6. [dsp] Re: Searching h/w for 56002EVM

From: Jake Janovetz <janovetz@tempest.ece.uiuc.edu>
Date: Sun, 2 May 1999 15:38:00 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-18770-1999.05.02-15.46.26--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

No.  This is not correct.  The 4215 is software programmable
through a control mode.  The 4218 is hardware programmable
through pins.  You cannot use the 4218 on the EVM.

   Cheers,
   Jake


On Sun, May 02, 1999 at 02:32:17PM -0500, Tim Baggett wrote:
>
>
> >Hi,
> >I have a problem in locating a source for:
> >CS4215KL 44 pin PLCC Codec, as used on the EVM56002 board.
> >in qty. :one.
> >
>
>
> Check for the Crystal CS4218. i *believe* it is pin for pin and software
> compatible. In fact, go to the Motorola DSP web site
> http://www.mot.com/SPS/DSP and look for an application note AN1790. Is
> details the use of the CS4218 with the Motorola DSP5630x EVMs. It covers the
> DSP56002 EVM nearly 100% as well, primarily with the exception of the ESSI
> RX/TX last slot interrupts. Evidently, motorola is now using the CS4218 with
> their EVM's.
>
> The app note can be found at:
> http://www.mot.com/pub/SPS/DSP/LIBRARY/APPNOTES/AN1790.pdf
> I recommend it to anyone wishing to understand how the EVM's DSP are
> interfaced with the CODEC.
>
> 73,
> Tim, AA5DF
>
>
>
>
> ---
> You are currently subscribed to dsp as: JANOVETZ@UIUC.EDU
> To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

--
   janovetz@uiuc.edu    | Once you have flown, you will walk the earth with
 University of Illinois | your eyes turned skyward, for there you have been,
                        | there you long to return.     -- da Vinci
        PP-ASEL         | http://www.ews.uiuc.edu/~janovetz/index.html

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 7. [dsp] Full duplex audio card

From: Alberto di Bene <dibene@usa.net>
Date: 3 May 99 14:20:12 WET DDST
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-18870-1999.05.03-07.24.48--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>Hi,
>
>Can anyone recommend a good/proper "FULL DUPLEX" 16 bit sound card.
>
>It must also that has enough info to program it outside Windows as I
>want to use for a dedicated PC based DSP engine (I am using Extended DOS
>with the DJGPP tools not Linux).
>
>- Charles G4GUO

Charles,
    I am afraid the market is shifting towards PCI audio cards, for which no
detailed interfacing specs do publicly exist (at least not from Creative
Labs). They want you to sign a non-disclosure agreement, and give an estimate
for the projected sales of your program ! Hobbyists seem to be ruled out...
BTW this the reason why we (myself and IK2CZL) have started the conversion of
our program Hamview to a native Windows version. Thus we have to fight only
against the Win API (not an easy task anyway...) and not with the incomplete
HW specs.

This notwithstanding, I read that somebody succeeded in writing Linux drivers

for the SB Live 128, a PCI card. May be you could do a search on this and
contact the author(s). If you find something, spec-wise, please leave a
pointer on this list. Thanks.

Alberto   I2PHD

_____
Get free e-mail and a permanent address at http://www.netaddress.com/?N=1

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 8. [dsp] Re: Full duplex audio card

From: Charles Brain <chbrain@dircon.co.uk>
Date: Mon, 03 May 1999 13:42:50 +0100
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-18878-1999.05.03-07.49.54--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Alberto di Bene wrote:
> Charles,
>     I am afraid the market is shifting towards PCI audio cards, for which no

Hi Alberto,

Yes I was beginning to get that idea myself. I suppose a more expensive solution is
to use the A/D - D/A cards used by the control community, they come with all the requisite
HW information but are very expensive.

I ported my ALE code to Windows, it is not too difficult to do, I just don't want the baggage
of an OS I don't really need, especially as I am attempting to do something that really ought
to use a DSP, maybe I ought to just go out and buy a couple of Sharc boards!

- Charles

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 9. [dsp] Re: Searching h/w for 56002EVM

From: TBaggett@AustinTX.net (Tim Baggett)
Date: Mon, 3 May 1999 09:28:08 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-18895-1999.05.03-09.25.03--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

-----Original Message-----
From: Jake Janovetz <janovetz@tempest.ece.uiuc.edu>
To: TAPR DSP Special Interest Group <dsp@lists.tapr.org>
Date: Sunday, May 02, 1999 3:43 PM
Subject: [dsp] Re: Searching h/w for 56002EVM

>No.  This is not correct.  The 4215 is software programmable
>through a control mode.  The 4218 is hardware programmable
>through pins.  You cannot use the 4218 on the EVM.

Thanks Jake! I wasn't completely correct in the CS4218. I did finally
download the specs and study them. The CS4218 is  nearly fully compatible
with the CS4216. However, the CS4218 does also include the capability to be
controlled through the data port (see the Serial Mode 3 section).
Unfortunatly, even in this mode the timeslot definitions are scrambled when
compared to the Cs4215. first, timeslots 1 and 3 contain sample data, and
timeslots 2 and 4 contain the control data on the CS4218. The CS4218, on the
other hand, and therefore the 56002EVM, define sample data in timeslots 1
and 2, with control data in slots 3 and 4.

Also, I didn't see a headphone output. The CS4218 does include two line
inputs and a software selectable MUX to switch between the two.

I did see no reference on the Crystal web page that the CS4215 was
discontinued, contrary to the rumors I have been hearing. I need to get
better contacts!

73,

Tim, AA5DF

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 10. [dsp] Re: Searching h/w for 56002EVM

From: Jake Janovetz <janovetz@tempest.ece.uiuc.edu>
Date: Mon, 3 May 1999 10:50:30 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-18916-1999.05.03-10.59.12--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Thanks Jake! I wasn't completely correct in the CS4218. I did finally
> download the specs and study them. The CS4218 is  nearly fully compatible
> with the CS4216. However, the CS4218 does also include the capability to be
> controlled through the data port (see the Serial Mode 3 section).
> Unfortunatly, even in this mode the timeslot definitions are scrambled when
> compared to the Cs4215. first, timeslots 1 and 3 contain sample data, and
> timeslots 2 and 4 contain the control data on the CS4218. The CS4218, on the
> other hand, and therefore the 56002EVM, define sample data in timeslots 1
> and 2, with control data in slots 3 and 4.

I have never looked closely at the 4216/4218.  I didn't realize
it was programmable though...

> Also, I didn't see a headphone output. The CS4218 does include two line
> inputs and a software selectable MUX to switch between the two.
>
> I did see no reference on the Crystal web page that the CS4215 was
> discontinued, contrary to the rumors I have been hearing. I need to get
> better contacts!

Hmm.  That thing has been around for a _long_ time.  I think the
first time I saw it was in the old Sun Speakerboxes they included
with their workstations.  I wouldn't be surprised if they discontinue
it sometime soon.

   Cheers,
   Jake

--
   janovetz@uiuc.edu    | Once you have flown, you will walk the earth with
 University of Illinois | your eyes turned skyward, for there you have been,
                        | there you long to return.     -- da Vinci
        PP-ASEL         | http://www.ews.uiuc.edu/~janovetz/index.html

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 11. [dsp] New Helpfiles for PSK31 on SB

From: Eduardo Jacob <jtpjatae@bicc00.bi.ehu.es>
Date: Mon, 03 May 1999 19:59:31 +0200
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-18932-1999.05.03-13.06.46--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

There are new files available:

        The Spanish help files for version 1.06 are here:

        ftp://det.bi.ehu.es/pub/ham/psk31/p31sbw106-es.zip
        http://www.kender.es/~edu/download/p31sbw106-es.zip

        The Russian help files for version 1.05 are here:

        ftp://det.bi.ehu.es/pub/ham/psk31/p31sbw105-ru.zip
        http://www.kender.es/~edu/download/p31sbw105-ru.zip

        Please -follow- the instructions give in the readme.txt file.

        Regards

        Eduardo/EA2BAJ

```
-------------------------------------------------------
Eduardo EA2BAJ
DSP and HAM:   http://det.bi.ehu.es/~jtpjatae/ham.html
VHF PACKET: EA2BAJ @ EA2URV
PGP Key avlb: Send email w/subject: PGPKEY
fingerprint : D8 FA 54 49 F7 40 BA AA 09 1A 73 40 A4 26 ED BD

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
```

## 12. [dsp] Re: Suggestions for a new list member?

```
From: "PAT McGRATH" <patricio@cyberg8t.com>
Date: Mon, 3 May 1999 13:32:23 -0700
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-18956-1999.05.03-15.36.17--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Is this correct?

 (http://www.erols.com/dougbert/)

I receive an error message "The page cannot be found"




---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
```

## 13. [dsp] Re: Suggestions for a new list member?

```
From: Mike <kc4qn@mindspring.com>
Date: Mon, 03 May 1999 16:43:46 -0400
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-18958-1999.05.03-15.42.47--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 01:32 PM 5/3/99 -0700, you wrote:
>Is this correct?
>
> (http://www.erols.com/dougbert/)
>
>I receive an error message "The page cannot be found"

I just connected to this address ok. You might want to try again.


---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
```

## 14. [dsp] Re: Suggestions for a new list member?

```
From: Douglas Braun <doug.braun@intel.com>
Date: Mon, 03 May 1999 13:38:53 -0700
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-18960-1999.05.03-15.43.36--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

It works for me at the moment...

Doug

At 01:32 PM 5/3/99 -0700, you wrote:
>Is this correct?
>
> (http://www.erols.com/dougbert/)
>
>I receive an error message "The page cannot be found"


---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
```

## 15. [dsp] New help files, more info

From: Eduardo Jacob <jtpjatae@bicc00.bi.ehu.es>
Date: Tue, 04 May 1999 10:19:48 +0200
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-19059-1999.05.04-03.27.38--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I forgot to say that this hard work was done by:

Mike Pavlov RV3DBL and Andrey Otroshenko RA3DOA for the Russian version and Pauli EA3BLQ for the spanish version.

I would like to say that this is on of the best ways to spread the mode, I have received messages from French (more) and German (less) hams, asking for a local helpfile to understand the subtilities of the mode.

If you would like to begin a translation, I suggest you to contact Peter G3PLX. He will explain you how to do it and pass you material.

Eduardo/EA2BAJ

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 16. [dsp] Re: Full duplex audio card

From: Thomas Sailer <sailer@ife.ee.ethz.ch>
Date: Tue, 04 May 1999 11:25:35 +0200
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-19062-1999.05.04-04.30.21--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Alberto di Bene wrote:

> I am afraid the market is shifting towards PCI audio cards, for which no
> detailed interfacing specs do publicly exist (at least not from Creative
> Labs). They want you to sign a non-disclosure agreement, and give an estimate

It's not as dark as that. Trident has documentation for their PCI audio chip,
so does S3 for their SonicVibes, which is out of production. ESS technology
also has a PDF datasheet for their Solo1 chip, but I haven't succeeded so
far to get the recording working.

Indeed, Creative is again the black sheep. There is no documentation
and probably won't be anytime soon for the SB Live. For the SB PCI64/128,
there is actually some documentation from the Ensoniq days, Creative
just bought Ensoniq some time ago.

73s
Tom

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 17. [dsp] Problems with PEROM

From: Fernando Mederos <fmederos@adinet.com.uy>
Date: Tue, 04 May 1999 22:22:54 -0300
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-19155-1999.05.04-20.49.08--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi,
Some time ago I bought a pair of 29C256 PEROM chips from JDR for my EVM and have been using them succesfully (I tested both) with PLXBOOT to load BIOS2 and a variety of modems thru the SCI port.

I lately tried to load BIOS2 and G3RUH modem into the PEROM using FLSHBOOT in order to be able to use the DL program. I need this to load the EVM from Linux, but found some strange problems:
I edited the 'Progflsh' command file for the debugger to load BIOS2, G3RUH and FLSHBOOT. It runs and halts OK, then I reset the card and everything is OK too!. BIOS2 boots and then runs the G3RUH modem and everything is OK. I power the card OFF for 3 seconds and it reboots OK at power-up and works fine.

BUT if I power OFF the thing longer than 3 seconds the PEROM seems to erase! :-((  If power OFF period is about 4 secs the card lights LEDs randomly when powered-up, if OFF period is long then it acts as there were no PEROM at all!

The chips are AT29C256 12PC date code 9836. I am using 40MHz clock.

I emphasize that when I program the PEROM with the PLXBOOT loader I can power OFF the card for any period of time and then it boots fine, ready to accept a .CLD .

Has anyone else experienced this sort of problem?
Thanks for any pointer!!

73 de Nando.

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 18. [dsp] Re: Problems with PEROM

From: Charles Brain <chbrain@dircon.co.uk>
Date: Wed, 05 May 1999 07:20:07 +0100
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-19202-1999.05.05-05.51.32--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Fernando Mederos wrote:
>
> Hi,
>
>         BUT if I power OFF the thing longer than 3 seconds the PEROM seems to
> erase! :-((  If power OFF period is about 4 secs the card lights LEDs
> randomly when powered-up, if OFF period is long then it acts as there were
> no PEROM at all!

Hello Fernando,

Well here is my 2 cents worth!

I think what the problem is, is that some constant is not being restored
from the PROM when it reeboots. If you leave the power off for only a few secs
the value will still be retained in RAM. However if it is left off for any longer
than that the RAM location looses its info.

Just a guess, but I had a similar problem on something I wrote and that was the reason.

- Charles

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 19. [dsp] Re: Problems with PEROM

From: Douglas Braun <doug.braun@intel.com>
Date: Wed, 05 May 1999 08:04:02 -0700
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-19227-1999.05.05-10.08.47--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I have never seen or heard of this sort of problem.  It sounds
very bizarre.

Possibly the programming code is bng left in memory and
getting re-executed somehow?

Also, make sure that you have properly patched flshboot.asm
to program the right amount of P/X and Y memory.
possibly some data variables are not being loaded from the PEROM?

Doug
N1OWU

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 20. [dsp] Re: Problems with PEROM

From: Fernando Mederos <fmederos@adinet.com.uy>
Date: Wed, 05 May 1999 23:26:16 -0300
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-19349-1999.05.05-21.44.30--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Thanks Charles and Douglas for your help. I will check further that *all*
necessary memory locations are being programmed to the PEROM.

        73 de Fernando

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 21. [dsp] Hamview 2.20 available

From: Alberto di Bene <dibene@usa.net>
Date: 6 May 99 11:48:37 WET DDST
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-19399-1999.05.06-04.53.29--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hamview version 2.20 is now available at the URL :

  http://www.freeyellow.com/members/padan

We left also V 2.10 available in case someone has problems with the new
version.
Please report any bug you may found.

What's new ?

- Audio delay reduced to about one tenth of a second between input and output
- Separate processing paths for audio and spectral display. Denoiser now
affects audio only
- Input Gain is now adjustable from 0 to 31 in the INI file
- Input Source is selectable between Line and Mike inputs in the INI file
- The EME period, 2 minutes in the previous version, is now adjustable in the
INI file
- The Denoiser effectiveness has been improved for CW
- Still more bugs have been chased down and exterminated (but some do probably
remain remain)

The Windows version is constantly (albeit slowly) proceeding. Estimated time
frame for release is October.

73,
Alberto  I2PHD
Vittorio  IK2CZL

_____
Get free e-mail and a permanent address at http://www.netaddress.com/?N=1

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 22. [dsp] Coding to beat turbo codes.

From: Jake Janovetz <janovetz@tempest.ece.uiuc.edu>
Date: Thu, 6 May 1999 08:42:39 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-19428-1999.05.06-08.51.29--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

DSP and Spread Spectrum lists:

I was forwarded this message about a month ago, but thought
that some people on these lists might find this interesting.
Basically, they have a coding scheme which beats turbo
codes by about 0.5dB.  They are now very close to the Shannon
limit for capacity.

Cheers,
Jake

---------- Forwarded message ----------
Date: Mon, 5 Apr 1999 18:19:25 -0400

Dear Colleague:

In recent weeks we designed sequences of low-density parity check
codes that provably perform at rates extremely close to the Shannon
capacity. For instance, our best code of rate 1/2 is
asymptotically less than 0.06dB away from capacity for the AWGN
channel. Simulation results indicate that for a length of 1,000,000 we
can achieve an error probability of 10^(-6) at 0.13dB from capacity.
Our codes are built from highly irregular bipartite graphs with
carefully chosen degree patterns on both sides, by optimizing the
threshold obtained in our previous paper.
Moreover, the paper gives some more theoretical insight into the
behavior of the decoding process.

A preprint of our paper, entitled
"Design of provably good low-density parity check codes"
can be obtained at

http://cm.bell-labs.com/who/{ruediger or tjr}/pub.html

As always, comments are most welcome.

Best regards,

Tom Richardson
Amin Shokrollahi
Ruediger Urbanke
----- End forwarded message -----

--
janovetz@uiuc.edu | Once you have flown, you will walk the earth with
University of Illinois | your eyes turned skyward, for there you have been,
| there you long to return. -- da Vinci
PP-ASEL | http://www.ews.uiuc.edu/~janovetz/index.html

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 23. [dsp] Russian Help Files for P31SBW 1.06

From: Eduardo Jacob <jtpjatae@bicc00.bi.ehu.es>
Date: Thu, 06 May 1999 18:49:38 +0200
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-19451-1999.05.06-11.54.31--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Andrei has just sent me the new version of their russian helpfiles.

ftp://det.bi.ehu.es/pub/ham/psk31/p31sbw106-ru.zip
http://www.kender.es/~edu/download/p31sbw106-ru.zip

You can now replace the original help file with this one.

Regards

Eduardo/EA2BAJ

---
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To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 24. [dsp] Re: Motorola EVM56002

From: "PAT McGRATH" <patricio@cyberg8t.com>
Date: Thu, 6 May 1999 21:27:12 -0700
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-19535-1999.05.06-23.31.05--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

What is  the best price for a Motorola EVM56002 DSP and where?

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 25. [dsp] Re: Problems with PEROM

From: Fernando Mederos <fmederos@adinet.com.uy>
Date: Fri, 07 May 1999 01:48:11 -0300
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-19538-1999.05.06-23.54.17--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The problem I had programing the PEROM from FLSHBOOT were that it was set
to store a region of P:RAM that is no longer used for the BIOS, starting at
0x1400. I changed the start of the BIOS to 0x3800 as well as the number of
blocks stored to 17 for the BIOS P:RAM and 44 for user P:RAM (they were 16
for BIOS P:RAM and 45 for user P:RAM). Also the starting address of the
BIOS code at the PEROM needed modification so as not to overrun.
        I would like to know if these addresses and block numbers are the
"standard" being used for modern versions of bios2 and modems...

        Thanks again for the help,

                73 de Fernando

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 26. [dsp] Re: Motorola EVM56002

From: "Steven R. Bible" <srbible@gate.net>
Date: Fri, 07 May 1999 07:32:33 -0400
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-19578-1999.05.07-06.38.06--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 09:27 PM 5/6/99 -0700, you wrote:
>What is  the best price for a Motorola EVM56002 DSP and where?

Try Monterey Tools at http://www.monereytools.com

They sell the DSP56002EVM for $149.00 and $15.00 S&H.  Otherwise call any
Motorola distributor and dicker pricing.  You should get it no more that
$149.00.  Anything more is robbery.

- Steve, N7HPR
  n7hpr@tapr.org
  n7hpr@amsat.org

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 27. [dsp] Re: Problems with PEROM

From: Douglas Braun <doug.braun@intel.com>
Date: Fri, 07 May 1999 08:38:14 -0700
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-19614-1999.05.07-10.42.57--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

It sounds like you have a very old version of the flshboot program.
Go to www.erols.com/dougbert and you will find my most up-to-date
version, which I use myself.

Also note that some versions of programming algorithms have
subtle bugs that only show up when programming certain
address ranges.  See the notes at the top of the afoementioned
version for more info.

Doug
N1OWU

At 01:48 AM 5/7/99 -0300, you wrote:
>
>       The problem I had programing the PEROM from FLSHBOOT were that it was set
>to store a region of P:RAM that is no longer used for the BIOS, starting at
>0x1400. I changed the start of the BIOS to 0x3800 as well as the number of
>blocks stored to 17 for the BIOS P:RAM and 44 for user P:RAM (they were 16
>for BIOS P:RAM and 45 for user P:RAM). Also the starting address of the
>BIOS code at the PEROM needed modification so as not to overrun.
>       I would like to know if these addresses and block numbers are the
>"standard" being used for modern versions of bios2 and modems...
>
>       Thanks again for the help,
>
>               73 de Fernando


---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 28. [dsp] Signal averaging

From: Lorenzo Midulla <midulla@provincia.parma.it>
Date: Sat, 08 May 1999 16:23:27 +0200
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-19743-1999.05.08-09.33.48--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Can oversampling be used to reduce noise?

The idea is to perform a signal averaging in this manner:
- oversampling the signal at 48KHz (the signal is supposed to be 4KHz band
limited)
- extracting 6 signals (each at 8KHz sampling rate) from it by means of a
commutator
- putting the signals in phase by means of fractional delays
- summing them all

The expected reduction is about 8dB.

Because of anti-aliasing filter (cut-off 24KHz) the noise is no more white,
however it is correlated over time intervals less than sample time.

I simulated the process with SIMULINK and the results agreed the prediction
(I can send my test model to anyone interested).

An efficient implementation on the EVM is possible by use of polyphase
fiters for the decimator.

I'm waiting for comments

Lorenzo Midulla, IW4EBN
Parma Italy


---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 29. [dsp] Re: Signal averaging

From: Jake Janovetz <janovetz@tempest.ece.uiuc.edu>
Date: Sat, 8 May 1999 09:49:24 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-19747-1999.05.08-09.58.20--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

No.  It does you no good to sample faster than the Nyquist rate.
The possible "exception" to this is in the case of oversampling
DAC/ADCs that trade sample rate for quantization, but then
perform a noise shaping on the quantization noise spectrum.
I say "exception" because it is not really an exception.  You
are trading one thing for another.  In today's technology,
speed is cheaper than good linearity for high-bit converters.
(uh, qualify that with audio-range stuff)

By averaging, you are just low-pass filtering before decimating.
Trouble is, you don't even need to do that since your signal
is bandlimited.  You can decimate straight away and not bother

with filtering.  Or, just lower your sample rate.

   Cheers,
   Jake


On Sat, May 08, 1999 at 04:23:27PM +0200, Lorenzo Midulla wrote:
> Can oversampling be used to reduce noise?
>
> The idea is to perform a signal averaging in this manner:
> - oversampling the signal at 48KHz (the signal is supposed to be 4KHz band
> limited)
> - extracting 6 signals (each at 8KHz sampling rate) from it by means of a
> commutator
> - putting the signals in phase by means of fractional delays
> - summing them all
>
> The expected reduction is about 8dB.
>
> Because of anti-aliasing filter (cut-off 24KHz) the noise is no more white,
> however it is correlated over time intervals less than sample time.
>
> I simulated the process with SIMULINK and the results agreed the prediction
> (I can send my test model to anyone interested).
>
> An efficient implementation on the EVM is possible by use of polyphase
> fiters for the decimator.
>
> I'm waiting for comments
>
> Lorenzo Midulla, IW4EBN
> Parma Italy
>
>
> ---
> You are currently subscribed to dsp as: JANOVETZ@UIUC.EDU
> To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

--
   janovetz@uiuc.edu    | Once you have flown, you will walk the earth with
 University of Illinois | your eyes turned skyward, for there you have been,
                        | there you long to return.     -- da Vinci
        PP-ASEL         | http://www.ews.uiuc.edu/~janovetz/index.html

---
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To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 30. [dsp] Orcad/Xilinx Schematic Entry and VHDL compiler EVALUATION available

From: "Quentin Conner" <quentin@qns.net>
Date: Sun, 9 May 1999 16:01:10 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-19941-1999.05.09-16.04.48--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

This is not meant to be a commercial solicitation so please hold your
flames.

I received a flyer in the mail friday for an evaluation CDROM from Orcad
and Xilinx.  The software is supposed to include Orcad Express Release
9,
crippled of course.  The limitation is 30 parts in schematic entry, 100
lines VHDL simulation, and 30 pins logic synthesis.

To request the evaluation, see http://www.vhdlnow.com

Hopefully this information will be of use to other HAMs who like to
experiment.  If nothing else it is a cheap way to learn VHDL.

Regards,

Quentin

--
Quentin Conner -- KC5VYH
http://www.qns.com/~quentin
QNSnet -- public Internet access for Oklahoma
mailto:info@qns.com
5900 Mosteller Dr #1500, OKC, OK 73112  405.848.3228

http://www.qns.net

---
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## 31. [dsp] Re: Signal Averaging

From: "Lawrence E. Stoskopf" <stoskopf@tri.net>
Date: Sun, 09 May 1999 16:43:07 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-19947-1999.05.09-16.50.59--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Glad you pointed this out.  My gut feeling from statistics courses taken as an agronomy major was that the way to greater  significant precision was to over sample and average and the decimals left were sort of proportional to the data size.  And of course the key is to design your experiment so that you have an adequate sample size without wasting a lot of time and money.  (Like they want to do with the censis. My political view is to follow the constitution and count.) So, without the math to prove it, will accept the fact that the white noise is also much slower than the sampling rate and I can throw out perfectly good data by decimation....except the Romans only killed one out of ten.

Thanks for the info,

N0UU

> No.  It does you no good to sample faster than the Nyquist rate.
> The possible "exception" to this is in the case of oversampling
> DAC/ADCs that trade sample rate for quantization, but then
> perform a noise shaping on the quantization noise spectrum.
> I say "exception" because it is not really an exception.  You
> are trading one thing for another.  In today's technology,
> speed is cheaper than good linearity for high-bit converters.
> (uh, qualify that with audio-range stuff)
>
> By averaging, you are just low-pass filtering before decimating.

---
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## 32. [dsp] Re: Signal averaging

From: TBaggett@AustinTX.net (Tim Baggett)
Date: Sun, 9 May 1999 23:07:56 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-20040-1999.05.09-23.03.27--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Lorenzo,

>Can oversampling be used to reduce noise?

I don't see why you couldn't oversample in order to possibly reduce noise in some situations. If, for example, it is known that the signal you are sampling has some white noise, you should be able to take an average of several samples. If you assume the signal is constant during the time in which you take your samples, when you average the samples, the noise will cancel. this is due to white (gaussian) noise having zero mean.

>
>The idea is to perform a signal averaging in this manner:
>- oversampling the signal at 48KHz (the signal is supposed to be 4KHz band
>limited)
>- extracting 6 signals (each at 8KHz sampling rate) from it by means of a
>commutator
>- putting the signals in phase by means of fractional delays
>- summing them all
>

Should also divide by 6, to finish out the average. But, I guess this isn't really necessary. Just make sure you don't overflow during the summation!

>The expected reduction is about 8dB.
>
>Because of anti-aliasing filter (cut-off 24KHz) the noise is no more white,
>however it is correlated over time intervals less than sample time.

True, but I think it will be 'white enough'. True white noise contains energy in the frequency band from - infinity to + infinity. I don't think your 24 KHz anti aliasing filter will  really cause you a problem. The noise is still white over the frequency range you are interested in (0-4KHz). In fact, you should probably drop the anti aliasing filter down to 4KHz.

This is sometimes done in semiconductors that incorporate analog A/D's and a lot of digital circuitry. By averaging several samples at a higher sample rate, you can average out some of the huge amount of noise generated by the digital circuits. Sometimes also the digital circuits may skip a clock or two during the time the A/D's are converting a sample.

>
>I simulated the process with SIMULINK and the results agreed the prediction
>(I can send my test model to anyone interested).

I would be interested. Unfortunatly, I don't have or use Simulink. Perhaps someday! Until then, I just code it all in Matlab!

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 33. [dsp] Re: Signal averaging

From: "Stephan Isebeck" <stephan@parsec.co.za>
Date: Mon, 10 May 1999 09:37:45 +0200
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-20064-1999.05.10-02.38.31--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Oversampling can be used to reduce any noise outside the desired band (assumed to be < 4 kHz).

This noise may originate externally to the A/D. In this case, if the noise bandwidth is f_n, (where f_n > 4 kHz), it is desirable to sample at a rate exceeding f_n + 4 kHz. This shall ensure that the noise will not alias back into the desired band (although the noise will 'fold back' onto itself if f_n > fs/2).

Alternatively, the noise may constitute quantisation  errors produced by the A/D. The quantisation noise spectrum may be assumed to be flat in the interval [-fs/2 fs/2]. (This is not strictly true in the case of narrowband signals, because the sampling rate interacts with the frequency of the input producing in correlated errors, resulting in regular spurs in the band). Nevertheless, oversampling is deemed to lower the noise spectral density, because the quantisation noise energy is now spread over a wider band, (than would be the case for ideal Nyquist sampling). The out-of-band (> 4 kHz) energy can be removed by means of decimation filtering. The remaining (in-band) quantisation noise power is roughly 10*log(4/24) = -7.8 dB that of the original quantisation noise.

Although this (latter) reasoning is theoretically true, no dramatic advantages are forthcoming in practice, (we've tried). A real A/D circuit is very complex and the 'ideal sampler with quantisation' model is a gross oversimplification. Other noise sources exist in an A/D. Some of these depend on the sampling rate. The assumption that the output noise density shall be lower for a higher sampling rate is thus not necessarily true in practice. Rest assured, the A/D manufacturers have been aware of any prospect to reduce noise for a very long time.

Many regards.

_____
* Stephan Isebeck
* Parsec
* Phone  : +27-12-3492282
* Fax      : +27-12-3492289
* Mobile  : +27 83-375-9087
* Email   : stephan@parsec.co.za
_____

reduce noise.

-----Original Message-----
From: Lorenzo Midulla <midulla@provincia.parma.it>
To: TAPR DSP Special Interest Group <dsp@lists.tapr.org>
Date: Saturday, May 08, 1999 4:31 PM
Subject: [dsp] Signal averaging


>Can oversampling be used to reduce noise?
>
>The idea is to perform a signal averaging in this manner:
>- oversampling the signal at 48KHz (the signal is supposed to be 4KHz band
>limited)
>- extracting 6 signals (each at 8KHz sampling rate) from it by means of a
>commutator
>- putting the signals in phase by means of fractional delays
>- summing them all
>
>The expected reduction is about 8dB.
>
>Because of anti-aliasing filter (cut-off 24KHz) the noise is no more white,
>however it is correlated over time intervals less than sample time.
>
>I simulated the process with SIMULINK and the results agreed the prediction
>(I can send my test model to anyone interested).
>
>An efficient implementation on the EVM is possible by use of polyphase
>fiters for the decimator.
>
>I'm waiting for comments
>
>Lorenzo Midulla, IW4EBN
>Parma Italy
>
>
>---
>You are currently subscribed to dsp as: stephan@parsec.co.za
>To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
>


---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 34. [dsp] Flash Tutorial

From: Zennaro Marco <zennaro@ictp.trieste.it>
Date: Mon, 10 May 1999 15:29:30 +0200 (MET DST)
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-20090-1999.05.10-08.36.26--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi! I am new to dsp, and I am looking for a tutorial on how to use a
flash eprom on the Motorola EVM 56002 dsp. Are there any around?
Thanks,
Marco Zennaro


---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 35. [dsp] Re: Flash Tutorial

From: Carles Perello <perello@imec.be>
Date: Mon, 10 May 1999 16:08:26 +0200 (CEST)
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-20094-1999.05.10-08.45.58--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Mon, 10 May 1999, Zennaro Marco wrote:

> Hi! I am new to dsp, and I am looking for a tutorial on how to use a
> flash eprom on the Motorola EVM 56002 dsp. Are there any around?

What about checking atmel website? http://www.atmel.com


---

You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 36. [dsp] Re: Flash Tutorial

From: Olaf Mindermann <O.Mindermann@FH-Wolfenbuettel.DE>
Date: Mon, 10 May 1999 16:07:28 +0200
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-20100-1999.05.10-09.09.14--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello!

Look at:
http://shoko.calarts.edu/~glmrboy/musicdsp/dspsource.html
A friend of me has patched the org. flash.asm and has written some comments

greetings
Olaf Mindermann

Zennaro Marco wrote:

> Hi! I am new to dsp, and I am looking for a tutorial on how to use a
> flash eprom on the Motorola EVM 56002 dsp. Are there any around?

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 37. [dsp] Re: Flash Tutorial

From: TBaggett@AustinTX.net (Tim Baggett)
Date: Mon, 10 May 1999 09:49:43 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-20103-1999.05.10-09.45.01--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>Hi! I am new to dsp, and I am looking for a tutorial on how to use a
>flash eprom on the Motorola EVM 56002 dsp. Are there any around?
>Thanks,
>Marco Zennaro

Best tutorial I've seen is to read the comments at the beginning of the
flash.asm program itself. Also, if you have purchased your EVM longer than a
year and half ago, go to the TAPR FTP site and download Johan's EVM package
(ftp://ftp.tapr.org/dsp/dsp56002/evm56k/kc7ww/evm56k3.zip ) and use his
flash.asm. Johan slightly modified the flash.asm code originally from Moto
to fix a problem when flashing large programs.

Also, I think Steve may have covered flashing the EVM a bit in the EVMRI
manual. Check out the TAPR DSP SIG page for details on the EVMRI.

Also a note to everyone: The TAPR DSP FTP area will be undergoing a massive
reorganization. I don't know when it will be switched over, but as soon as
the switch occurs I will send an email out.  Therefore the path above will
change. Also, if you have links from a web site to the TAPR DSP FTP area,
you will probably have to change them after the switch.

73,
tim

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 38. [dsp] HF Digital Seminar at ARRL Convention; June 5th

From: Johan Forrer <forrerj@PEAK.ORG>
Date: Mon, 10 May 1999 13:03:35 -0700 (PDT)
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-20142-1999.05.10-15.07.17--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi all,

Announcement:
-------------

There will be a seminar on HF digital communications
at the annual ARRL NorthWest Division Convention on Saturday,
June 5th,1999. The venue is at Seaside, Oregon and the title
of the seminar is:

New Directions for HF Digital: PSK31, MT63, MTHELL, Q15X25,
and Digital Speech by Johan Forrer, KC7WW --- A non-technical
overview of these hot new modes.

If you can make it, hope to see you there!

73

Johan, KC7WW

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 39. [dsp] Re: Flash Tutorial

From: TBaggett@AustinTX.net (Tim Baggett)
Date: Mon, 10 May 1999 23:51:43 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-20231-1999.05.10-23.46.48--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Sorry Quentin...too much work to try to email a response back.

I'll post the non-personal details to the list for all instead.

Tim

>>I've got an old (~4 yrs?) EVM for which I just built the TAPR radio
>>interface kit.  I pulled down the entire lot of files in the TAPR "recent
>>uploads" area.  While I haven't done any more than single step through
>>some demos I plan to leverage my new DSP modem for working some new
>>modes!  Now for the question:
>>
>>Do you think I've got enough source to start with or should I wait for
>>your reorganization?
>
>
>Well, the flash.asm that is on the TAPR site is essentially the same as the
>one shipped with the EVM on the disks. The only difference is that there
was
>a bug in the flash.asm shipped with the older EVMs such that it wouldn't
>flash large programs.
>
>Wow, heck of a download if you grabbed everything in recent_uploads.
>Luckily, I see that Greg got my new DSP FTP area moved over, so the
>recent_uploads is now gone, and will never return.
>
>From the recent_uploads directory, look for a file evm28.exe - this is
>actually the entire Motorola software distribution currently being shipped
>with the 002EVM. I put it together about two years ago, and when I did, I
>got Johan's permission to include his version of the flash.asm which
>included much better comments in how to use the program, and also the long
>program flash patch. evm28.exe also comes with the DOS version of the
Domain
>Technologies debugger, and other Motorola tools & demo code. In the new FTP
>area it is in: ftp://ftp.tapr.org/dsp/Motorola/dsp56002/evm56k/motorola/
>
>
>Other good places to start is n1owu_11.txt - this is doug's revision of the
>bios used on the 56002EVM for which the modems are all written for. It is
>based on Johan's changes of the bios, which is originally based on the bios
>from the old AlefNull DSP_Card4 project. I have not tried either johan or
>Doug's bios versions (only the AlefNull back in 96), but from following the
>list, I can tell you Doug has done a great job creating a nice package.
>
>Also check out evmpac3.zip and dl32.zip
>
> 73,

> Tim

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 40. [dsp] New DSP FTP area

From: TBaggett@AustinTX.net (Tim Baggett)
Date: Tue, 11 May 1999 00:06:04 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-20249-1999.05.11-00.01.54--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi all,

If you have web pages with links to files in the TAPR DSP FTP area, you will probably have to adjust them as the new organized TAPR DSP FTP area is now in place (Thanks Greg). It took quite a bit, as I wasn't familiar with half the code in there. In fact, I'm not sure I'm even familiar with much more than that now!

The good news is recent_uploads is gone, and never to return. I'll accept 100 lashing for being negligent and insane in creating it in the first place. It was never meant to be a permanent home to downloads.

In addition to the reorganization, I tried to include a README file for each directory that will contain a list of files found within that directory complete with a rough description. To continue along these same lines, please be sure to include a short .txt document containing a description of any files you upload. Also, when uploading files to the dsp/upload directory, send an email to aa5df@tapr.org to alert me to the fact I need to move a file to it's appropriate home.

I reorganized the FTP area hierarchy is based on the DSP hardware. In this way, if you are looking for files for a particular DSP, you can easily find them by just knowing what DSP you are intersted in. The first level directories are the major DSP manufacturers: Texas Instruments, Motorola, analog Devices, etc. There is also a general first level directory for general DSP stuff, such as tutorials, simulation tools, etc.

Once you are inside the appropriate manufacturer's directory, it breaks down according to the particular DSP, and DSP boxes.

73,
Tim, AA5DF

Here is a list of the directory structure:

dsp
dsp/upload
dsp/Analog_Devices
dsp/Analog_Devices/psa_sound_card
dsp/Analog_Devices/Sharc
dsp/DSP_Tools
dsp/mail_archive
dsp/Motorola
dsp/Motorola/dsp56000
dsp/Motorola/dsp56001
dsp/Motorola/dsp56001/dsp-12
dsp/Motorola/dsp56001/dsp_card_3
dsp/Motorola/dsp56001/dsp_card_4
dsp/Motorola/dsp56001/dsp2232
dsp/Motorola/dsp56002
dsp/Motorola/dsp56002/evm56k
dsp/Motorola/dsp56002/evm56k/ea2aru
dsp/Motorola/dsp56002/evm56k/kc7ww
dsp/Motorola/dsp56002/evm56k/motorola
dsp/Motorola/dsp56002/evm56k/motorola/schematics
dsp/Motorola/dsp56002/evm56k/TAPR_evmri
dsp/Motorola/dsp56002/evm56k/coherent_bpsk
dsp/Texas_Instruments
dsp/Texas_Instruments/tms320c10
dsp/Texas_Instruments/tms320c10/dalanco-spry
dsp/Texas_Instruments/tms320c10/dsp1
dsp/Texas_Instruments/tms320c10/dsp1/disk5
dsp/Texas_Instruments/tms320c10/dsp1/disk10

dsp/Texas_Instruments/tms320c10/dsp1/disk11
dsp/Texas_Instruments/tms320c10/dsp1/disk12
dsp/Texas_Instruments/tms320c10/dsp1/disk2
dsp/Texas_Instruments/tms320c10/dsp1/disk3
dsp/Texas_Instruments/tms320c10/dsp1/disk4
dsp/Texas_Instruments/tms320c10/dsp1/disk1
dsp/Texas_Instruments/tms320c10/dsp1/disk6
dsp/Texas_Instruments/tms320c10/dsp1/disk7
dsp/Texas_Instruments/tms320c10/dsp1/disk8
dsp/Texas_Instruments/tms320c10/dsp1/disk9
dsp/Texas_Instruments/tms320c10/dsp1/diskidx
dsp/Texas_Instruments/tms320c10/w9gr
dsp/Texas_Instruments/tms320c26
dsp/Texas_Instruments/tms320c26/c26_dsk
dsp/Texas_Instruments/tms320c50
dsp/Texas_Instruments/tms320c50/c5x_dsk
dsp/Texas_Instruments/dsp93
dsp/Texas_Instruments/dsp93/Paccomm_eproms
dsp/Texas_Instruments/dsp93/manuals
dsp/Texas_Instruments/dsp93/simulators
dsp/Texas_Instruments/dsp93/dsp93_eproms
dsp/Texas_Instruments/dsp93/util
dsp/Texas_Instruments/dsp93/util/JPEGview_files
dsp/Texas_Instruments/dsp93/software
dsp/Texas_Instruments/dsp93/software/linux
dsp/Texas_Instruments/dsp93/diskettes
dsp/Texas_Instruments/dsp93/schems
dsp/Texas_Instruments/dsp93/updates
dsp/Texas_Instruments/dsp93/upload
dsp/Texas_Instruments/dsp93/stlouis.wrkshp.95
dsp/Texas_Instruments/dsp93/source

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 41. [dsp] Re: Signal averaging

From: Lorenzo Midulla <midulla@provincia.parma.it>
Date: Tue, 11 May 1999 19:29:46 +0200
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-20348-1999.05.11-12.40.12--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 23.07 09/05/99 -0500, you wrote:
>
>I don't see why you couldn't oversample in order to possibly reduce noise in
>some situations. If, for example, it is known that the signal you are
>sampling has some white noise, you should be able to take an average of
>several samples. If you assume the signal is constant during the time in
>which you take your samples, when you average the samples, the noise will
>cancel. this is due to white (gaussian) noise having zero mean.
>

Tim,

There is no need you assume the signal to be constant during the time in
which the samples are taken.
In fact, fractional delay involves the reconstruction of the values between
nearby samples by means of interpolation.
Otherwise the average would be equal to low-pass filtering!

Lorenzo Midulla, IW4EBN
Parma Italy

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 42. [dsp] Re: Signal averaging

From: TBaggett@AustinTX.net (Tim Baggett)
Date: Tue, 11 May 1999 21:52:02 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-20427-1999.05.11-21.47.53--lyris.dsp#tapr.org@lists.tapr.org>

Rendered body type: text/plain

>There is no need you assume the signal to be constant during the time in
>which the samples are taken.
>In fact, fractional delay involves the reconstruction of the values between
>nearby samples by means of interpolation.
>Otherwise the average would be equal to low-pass filtering!
>
>Lorenzo Midulla, IW4EBN
>Parma Italy


Thanks Lorenzo. Yes, you are right. I noticed also in your first email that
you were using polyphase filters to time align the multiple samples, but
pretty much focused on answering each paragraph at a time!

Let us know when you get this coded up for a DSP, and how it works for you.

Regards,
Tim, AA5DF

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 43. [dsp] TAPR Dayton Activities 1999

From: Greg Jones <wd5ivd@tapr.org>
Date: Tue, 11 May 1999 21:54:45 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-20442-1999.05.11-22.33.29--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

TAPR Dayton Activities 1999
for details visit: http://www.tapr.org/tapr/html/Fdayton.html

We will be at our normal booth spaces (542 & 543)
Come on by and say hi!

Friday Morning - TAPR Digital Forum
Friday Evening -  TAPR PACK*BASH

---

TAPR Digital Forum on Friday

The schedule for the TAPR digital forum is:
        10:00 - 10:05am (5 min)
              Introduction to Forum, John Ackermann, N8UR

        10:05 - 10:30am (25min)
              TAPR Update, Greg Jones, WD5IVD

        10:30 - 11:00am (30 min)
              Linux AX.25 Update, John Ackermann, N8UR

        11:00 - 11:30am (30 min)
              PIC Development Update, Steve Bible, N7HPR and John Hansen, W2FS

        11:30 - 12:00noon (30 min)
              GPS Projects, Steve Bible, N7HPR

        12:00noon - 12:30pm (30 min)
              Compact Flash Card Project, John Koster, W9DDD

        12:30 - 1:00pm (30 min)
              TAPR APRS News, Steve Dimse, K4HG and Stan Horzepa, WA1LOU

        1:00pm - 1:45pm (45 min)
             FHSS Radio Project Update, Tom McDermott, N5EG

---

Attending the 1999 Dayton Hamvention?  Then don't miss out on PACK*BASH!

What?
       An event for the digitally-inclined ham, featuring:
        *  Buffet dinner

```
        *  "A Little Technology Goes a Long Way" -- Keynote address
              by Dave Pederson, N7BHC
        *  TAPR special interest group meetings
        *  "Birds of a Feather" gatherings

When?
        Friday evening, May 14, 1999
        Doors open at 7:00 pm; dinner served at 7:30 pm
        Speaker and meetings after dinner


Where?
        NCR "Sugarcamp" Conference Center, 101 W. Schantz Ave. --
        South of downtown Dayton, just west of Main St. (Rt 48).
        Maps available on the TAPR web site (www.tapr.org) or at the
        TAPR booth.


How?
        Dinner requires advance registration and payment through TAPR.
        Tickets will be available at the TAPR booth on Friday.  The cost
        is $20.00 per person, tax and tip included.

        All amateurs are welcome to attend, enjoy the speaker, and
        particpate in the meetings, although only those purchasing a
        dinner can eat.


Who?
        PACK*BASH is co-sponsored by TAPR -- Tucson Amateur Packet
        Radio, the national leader in digital communication -- and the
        Miami Valley FM Association, Dayton's packet radio club.


For more information (including maps), go to
http://www.tapr.org/tapr/html/dayton.html,
or send email to tapr@tapr.org.

-----
Greg Jones, WD5IVD                 Austin, Texas
wd5ivd@tapr.org      http://www.tapr.org/~wd5ivd



---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
```

## 44. [dsp] Re: Signal averaging

```
From: Robert McGwier <rwmcgwier@home.com>
Date: Wed, 12 May 1999 11:04:30 -0400
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-20522-1999.05.12-10.09.28--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain
```

```
Averaging is a low pass filter.

Lorenzo Midulla wrote:
>
> At 23.07 09/05/99 -0500, you wrote:
> >
> >I don't see why you couldn't oversample in order to possibly reduce noise in
> >some situations. If, for example, it is known that the signal you are
> >sampling has some white noise, you should be able to take an average of
> >several samples. If you assume the signal is constant during the time in
> >which you take your samples, when you average the samples, the noise will
> >cancel. this is due to white (gaussian) noise having zero mean.
> >
>
> Tim,
>
> There is no need you assume the signal to be constant during the time in
> which the samples are taken.
> In fact, fractional delay involves the reconstruction of the values between
> nearby samples by means of interpolation.
> Otherwise the average would be equal to low-pass filtering!
>
> Lorenzo Midulla, IW4EBN
> Parma Italy
```

>
>
> ---
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> To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 45. [dsp] Re: Signal averaging

From: Donald E Haselwood <dhaselwood@ij.net>
Date: Thu, 13 May 1999 11:24:37 -0400
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-20691-1999.05.13-10.31.52--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

While it is true that averaging is a low-pass filter, it does not suppress
the higher frequencies well--lobe peaks are about -7.5 db for a 9 pt
average (the improvement with larger numbers of points is not great).  The
frequency response is:

H(w) = (w * sin(m+1/2))/((2*m+1)*sin(w/2))
Where w is radian frequency (omega), and m is number of points in the average

Hamming, R. W. (1977). Digital Filters. Englewood Cliffs, NJ:
Prentice-Hall, Inc., p 31.

One can view an average as a FIR filter with equal coefficients.  A good
low-pass filter has unequal coefficients and does a better job with fewer
samples.

A (crude) way to view the oversampling is that it allows implementing a
sharper cutoff low-pass filter; that is, (crudely), the more samples, the
sharper the cut-off that can be achieved.

Samples can be thrown out after filtering.  BTW, Pawel, in SLOWBPSK, uses a
"trick" to do this--there is no need to compute the output of a filter that
is followed by decimation.  Just put each new sample into the buffer (or
"shift register") and compute the output *only* at the times the sample
will be retained.  If one-out-of-two samples are thrown out, this "trick"
cuts the computation in half.

It is important that the signal be band-limited ahead of the sampling so
that the noise doesn't alias (I believe someone made this point earlier).


Regards,

Donald E. Haselwood

At 11:04 AM 5/12/99 -0400, you wrote:
>Averaging is a low pass filter.
>
>Lorenzo Midulla wrote:
>>
>> At 23.07 09/05/99 -0500, you wrote:
>> >
>> >I don't see why you couldn't oversample in order to possibly reduce
noise in
>> >some situations. If, for example, it is known that the signal you are
>> >sampling has some white noise, you should be able to take an average of
>> >several samples. If you assume the signal is constant during the time in
>> >which you take your samples, when you average the samples, the noise will
>> >cancel. this is due to white (gaussian) noise having zero mean.
>> >
>>
>> Tim,
>>
>> There is no need you assume the signal to be constant during the time in
>> which the samples are taken.
>> In fact, fractional delay involves the reconstruction of the values between
>> nearby samples by means of interpolation.
>> Otherwise the average would be equal to low-pass filtering!
>>
>> Lorenzo Midulla, IW4EBN
>> Parma Italy
>>
>>

>> ---
>> You are currently subscribed to dsp as: RWMCGWIER@HOME.COM
>> To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
>
>---
>You are currently subscribed to dsp as: K4JPJ@APPSTATE.CAMPUS.MCI.NET
>To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
>
>

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 46. [dsp] FM demodulation with dsp

From: Donald E Haselwood <dhaselwood@ij.net>
Date: Thu, 13 May 1999 22:38:08 -0400
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-20743-1999.05.13-21.45.49--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

What techniques can be used to demodulate FM using dsp? The texts I have
don't say anything about this.

The signal (of interest at the moment) is a linear input (0.1 [not quite
dc] - 200 Hz [roughly]) modulating a 1700 Hz carrier between about 1,000
and 2,400 Hz. This is "one-off" type of experiment where the test data is
a file that can be run repeatedly. I suppose SSTV might be similar to this.

Analog techniques such as amplify-and-limit then trigger a one-shot, don't
seem suited for dsp equivalents (as the limiting creates hi-freq components
that alias, etc.).

A digital phase-locked loop may practical.

One seat-of-the-pants approach I came up with was to take "some" samples
(e.g. enough to cover 1 or 2 cycles of carrier), do a FFT, find the biggest
"bin" (maybe interpolate between bins) to give the "instantaneous"
frequency. (A "cheaper" approach would be to interpolate samples around
the zero-crossing to estimate the zero-crossing. The FFT could be viewed
as a "fancy" curve fit to the carrier.)

I would appreciate any ideas, or titles of texts that cover this.

73's

Don, W4DH

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 47. [dsp] Re: FM demodulation with dsp

From: forrerj@peak.org (Johan Forrer)
Date: Thu, 13 May 1999 21:42:49 -0800
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-20758-1999.05.13-23.50.17--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Don,

See Frerking's book starting page 249 for some real practical stuff.
Based on a differentiators or arctangent approaches. I have used the
differentiator idea and been quite happy with its performance.

You should also have a look at the EVM code example "FSKIFACE.ASM"
dome by Pawel. That should be in the EVM56K3.ZIP package on my
web page. There he used yet another way to demodulate FM based an a cute
mathematical trick. I wont spoil your fun finding out how that is done :-)

73,

Johan, KC7WW

>What techniques can be used to demodulate FM using dsp?  The texts I have
>don't say anything about this.
>
>The signal (of interest at the moment) is a linear input (0.1 [not quite
>dc] - 200 Hz [roughly]) modulating a 1700 Hz carrier between about 1,000
>and 2,400 Hz.  This is "one-off" type of experiment where the test data is
>a file that can be run repeatedly.  I suppose SSTV might be similar to this.
>
>Analog techniques such as amplify-and-limit then trigger a one-shot, don't
>seem suited for dsp equivalents (as the limiting creates hi-freq components
>that alias, etc.).
>
>A digital phase-locked loop may practical.
>
>One seat-of-the-pants approach I came up with was to take "some" samples
>(e.g. enough to cover 1 or 2 cycles of carrier), do a FFT, find the biggest
>"bin" (maybe interpolate between bins) to give the "instantaneous"
>frequency.  (A "cheaper" approach would be to interpolate samples around
>the zero-crossing to estimate the zero-crossing.  The FFT could be viewed
>as a "fancy" curve fit to the carrier.)
>
>I would appreciate any ideas, or titles of texts that cover this.
>
>73's
>
>Don, W4DH
>
>
>
>---
>You are currently subscribed to dsp as: FORRERJ@PEAK.ORG
>To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
>
>
>


---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 48. [dsp] Re: FM demodulation with dsp

From: Alfredo Weltert <alfredo.weltert@galactica.it>
Date: Fri, 14 May 1999 11:22:11 +0200
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-20773-1999.05.14-04.27.38--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The book  is out of stock.

Johan Forrer wrote:

> Don,
>
> See Frerking's book starting page 249 for some real practical stuff.
> Based on a differentiators or arctangent approaches. I have used the
> differentiator idea and been quite happy with its performance.
>
> You should also have a look at the EVM code example "FSKIFACE.ASM"
> dome by Pawel. That should be in the EVM56K3.ZIP package on my
> web page. There he used yet another way to demodulate FM based an a cute
> mathematical trick. I wont spoil your fun finding out how that is done :-)
>
> 73,
>
> Johan, KC7WW
>
> >What techniques can be used to demodulate FM using dsp?  The texts I have
> >don't say anything about this.
> >
> >The signal (of interest at the moment) is a linear input (0.1 [not quite
> >dc] - 200 Hz [roughly]) modulating a 1700 Hz carrier between about 1,000
> >and 2,400 Hz.  This is "one-off" type of experiment where the test data is
> >a file that can be run repeatedly.  I suppose SSTV might be similar to this.
> >
> >Analog techniques such as amplify-and-limit then trigger a one-shot, don't
> >seem suited for dsp equivalents (as the limiting creates hi-freq components
> >that alias, etc.).
> >

> >A digital phase-locked loop may practical.
> >
> >One seat-of-the-pants approach I came up with was to take "some" samples
> >(e.g. enough to cover 1 or 2 cycles of carrier), do a FFT, find the biggest
> >"bin" (maybe interpolate between bins) to give the "instantaneous"
> >frequency.  (A "cheaper" approach would be to interpolate samples around
> >the zero-crossing to estimate the zero-crossing.  The FFT could be viewed
> >as a "fancy" curve fit to the carrier.)
> >
> >I would appreciate any ideas, or titles of texts that cover this.
> >
> >73's
> >
> >Don, W4DH
> >
> >
> >
> >---
> >You are currently subscribed to dsp as: FORRERJ@PEAK.ORG
> >To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
> >
> >
> >
>
> ---
> You are currently subscribed to dsp as: ALFREDO.WELTERT@GALACTICA.IT
> To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org


---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 49. [dsp] Re: FM demodulation with dsp

From: Charles Brain <chbrain@dircon.co.uk>
Date: Fri, 14 May 1999 11:28:10 +0100
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-20775-1999.05.14-05.36.06--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Alfredo Weltert wrote:
>
> The book  is out of stock.
>
> Johan Forrer wrote:
>

Did you try Amazon.com ?

See attached GIF file (its small) hopefully I won't upset anyone
by breaking listiquette.

- Charles
[Attachment: fm.gif; image/gif; 3,961 bytes]

## 50. [dsp] Re: FM demodulation with dsp

From: Jake Janovetz <janovetz@tempest.ece.uiuc.edu>
Date: Fri, 14 May 1999 08:15:10 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-20788-1999.05.14-08.24.46--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Two other neat ways to do this:

1. Use Short-Time Fourier Transforms (overlapping FFTs) and do peak
   tracking.  This has been shown to improve over discriminator
   designs by about 3-6dB, but is more computationally intensive.
2. Design a digital IIR filter that has a rolloff over the FM deviation
   range.  Send the result into an envelope detector.  The IIR filter's
   slope will convert frequency into detected power which can then be
   sent to baseband with the envelope detector.
   I've never tried this with a DSP, but it certainly works. (we use the
   spectrum analyzer's resolution bandwidth filter as the slope detector
   to demodulate FM)
   If this can be made to work, it is likely the easies solution.

   Cheers,
   Jake

On Thu, May 13, 1999 at 10:38:08PM -0400, Donald E Haselwood wrote:
> What techniques can be used to demodulate FM using dsp?  The texts I have
> don't say anything about this.
>
> The signal (of interest at the moment) is a linear input (0.1 [not quite
> dc] - 200 Hz [roughly]) modulating a 1700 Hz carrier between about 1,000
> and 2,400 Hz.  This is "one-off" type of experiment where the test data is
> a file that can be run repeatedly.  I suppose SSTV might be similar to this.
>
> Analog techniques such as amplify-and-limit then trigger a one-shot, don't
> seem suited for dsp equivalents (as the limiting creates hi-freq components
> that alias, etc.).
>
> A digital phase-locked loop may practical.
>
> One seat-of-the-pants approach I came up with was to take "some" samples
> (e.g. enough to cover 1 or 2 cycles of carrier), do a FFT, find the biggest
> "bin" (maybe interpolate between bins) to give the "instantaneous"
> frequency.  (A "cheaper" approach would be to interpolate samples around
> the zero-crossing to estimate the zero-crossing.  The FFT could be viewed
> as a "fancy" curve fit to the carrier.)
>
> I would appreciate any ideas, or titles of texts that cover this.
>
> 73's
>
> Don, W4DH
>
>
>
> ---
> You are currently subscribed to dsp as: JANOVETZ@UIUC.EDU
> To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

--
   janovetz@uiuc.edu    | Once you have flown, you will walk the earth with
 University of Illinois | your eyes turned skyward, for there you have been,
                        | there you long to return.     -- da Vinci
        PP-ASEL         | http://www.ews.uiuc.edu/~janovetz/index.html

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 51. [dsp] Re: FM demodulation

From: Alberto di Bene <dibene@usa.net>
Date: 14 May 99 16:59:18 WET DDST
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-20797-1999.05.14-10.04.37--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>What techniques can be used to demodulate FM using dsp?  The texts I have
>don't say anything about this.

A possible technique could be this. I haven't tried it, so feel free to
correct me if I am wrong (it happened before...)

Generate from your input signal the I and Q components, using the Hilbert
transformer (a variant of a FIR filter). The I and Q components can be seen as
the projections of a rotating vector (your input signal, now described as an
analytical signal) on the real and imag axis. The phase of this rotating
vector is simply  atan(Q/I) (pay attention to the quadrant uncertainty). Now,
if you compute the actual phase difference between two samples, and its
theoretical value if the frequency were not changing, the difference between
these two values is proportional to the frequency modulation of the input
signal.

(Awaiting to be shot by the dsp gurus lurking here...)
Alberto   I2PHD

_____
Get free e-mail and a permanent address at http://www.netaddress.com/?N=1

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org

To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 52. [dsp] Re: FM demodulation

From: Rob Frohne <frohro@wwc.edu>
Date: Fri, 14 May 1999 08:36:47 -0700 (PDT)
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-20798-1999.05.14-10.41.51--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

You can do narrow band FM demodulation very easily using the small angle
approximations.  I'll try and get the details of this on my web site sometime
soon.  I've assigned it as a practical homework problem to make the R2-DSP
receiver demodulate narrow band FM for the last couple of years in the
Communications Systems class I teach.  The output of the I channel is just a
constant, say A, and the output of the Q channel is -A integral(k * m(t)dt)
if I recall right, where m(t) is the signal to be modulated on the carrier.

73,

Rob, KL7NA
>
> >What techniques can be used to demodulate FM using dsp?  The texts I have
> >don't say anything about this.
>
> A possible technique could be this. I haven't tried it, so feel free to
> correct me if I am wrong (it happened before...)
>
> Generate from your input signal the I and Q components, using the Hilbert
> transformer (a variant of a FIR filter). The I and Q components can be seen as
> the projections of a rotating vector (your input signal, now described as an
> analytical signal) on the real and imag axis. The phase of this rotating
> vector is simply  atan(Q/I) (pay attention to the quadrant uncertainty). Now,
> if you compute the actual phase difference between two samples, and its
> theoretical value if the frequency were not changing, the difference between
> these two values is proportional to the frequency modulation of the input
> signal.
>
> (Awaiting to be shot by the dsp gurus lurking here...)
> Alberto   I2PHD
>
>
>
>
> _____________________________________________________________________
> Get free e-mail and a permanent address at http://www.netaddress.com/?N=1
>
> ---
> You are currently subscribed to dsp as: FROHRO@WWC.EDU
> To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
>
>

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 53. [dsp] Re: FM demodulation

From: Rob Frohne <frohro@wwc.edu>
Date: Fri, 14 May 1999 08:58:49 -0700 (PDT)
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-20800-1999.05.14-11.03.55--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Oops!  I put the modulation formula there.  You want for demodulation to
use a differentiator.  You can implement this by just changing the FIR
filter coefficients in the R2-DSP receiver.  I'm sure others are similar.

73,

Rob, KL7NA/W7
>
> You can do narrow band FM demodulation very easily using the small angle
> approximations.  I'll try and get the details of this on my web site sometime
> soon.  I've assigned it as a practical homework problem to make the R2-DSP
> receiver demodulate narrow band FM for the last couple of years in the
> Communications Systems class I teach.  The output of the I channel is just a
> constant, say A, and the output of the Q channel is -A integral(k * m(t)dt)
> if I recall right, where m(t) is the signal to be modulated on the carrier.

> 
> 73,
> 
> Rob, KL7NA
> >
> > >What techniques can be used to demodulate FM using dsp?  The texts I have
> > >don't say anything about this.
> >
> > A possible technique could be this. I haven't tried it, so feel free to
> > correct me if I am wrong (it happened before...)
> >
> > Generate from your input signal the I and Q components, using the Hilbert
> > transformer (a variant of a FIR filter). The I and Q components can be seen as
> > the projections of a rotating vector (your input signal, now described as an
> > analytical signal) on the real and imag axis. The phase of this rotating
> > vector is simply  atan(Q/I) (pay attention to the quadrant uncertainty). Now,
> > if you compute the actual phase difference between two samples, and its
> > theoretical value if the frequency were not changing, the difference between
> > these two values is proportional to the frequency modulation of the input
> > signal.
> >
> > (Awaiting to be shot by the dsp gurus lurking here...)
> > Alberto   I2PHD
> >
> >
> >
> >
> > _____________________________________________________________________
> > Get free e-mail and a permanent address at http://www.netaddress.com/?N=1
> >
> > ---
> > You are currently subscribed to dsp as: FROHRO@WWC.EDU
> > To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
> >
> >
> 
> 
> ---
> You are currently subscribed to dsp as: FROHRO@WWC.EDU
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> 
> 


---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 54. [dsp] RDS decoding with Motorola EVM?

From: Eduardo Jacob <jtpjatae@bicc00.bi.ehu.es>
Date: Fri, 14 May 1999 18:44:32 +0200
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-20802-1999.05.14-11.48.52--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I have just learned that the whole national EA territory is (and other european members are already or planning to be) covered with DGPS information sent in RASANT format in the RDS (Radio Data System). I have found that there are receivers available for it at a little less that the price of a top level hanheld GPS receiver.

Does anybody know if there is sources for decoding the RDS data with an EVM? I think that if this is done it would be easy to decode from it the DGPS format. Any pointers or ideas?

Eduardo
---
Eduardo EA2BAJ
DSP and HAM:   http://det.bi.ehu.es/~jtpjatae/ham.html
VHF PACKET: EA2BAJ @ EA2URV
PGP Key avlb: Send email w/subject: PGPKEY
fingerprint : D8 FA 54 49 F7 40 BA AA 09 1A 73 40 A4 26 ED BD

---
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## 55. [dsp] Re: RDS decoding with Motorola EVM?

From: Alfredo Weltert <alfredo.weltert@galactica.it>
Date: Fri, 14 May 1999 18:59:27 +0200

To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-20803-1999.05.14-12.04.37--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

There is an application note from Motorola for a microcontroller with source code.

Eduardo Jacob wrote:

>         I have just learned that the whole national EA territory is (and other european members are already or planning to be) covered with DGPS information sent in RASANT format in the RDS (Radio Data System). I have found that there are receivers available for it at a little less that the price of a top level hanheld GPS receiver.
>
>         Does anybody know if there is sources for decoding the RDS data with an EVM? I think that if this is done it would be easy to decode from it the DGPS format. Any pointers or ideas?
>
>         Eduardo
> -------------------------------------------------------
> Eduardo EA2BAJ
> DSP and HAM:   http://det.bi.ehu.es/~jtpjatae/ham.html
> VHF PACKET: EA2BAJ @ EA2URV
> PGP Key avlb: Send email w/subject: PGPKEY
> fingerprint : D8 FA 54 49 F7 40 BA AA 09 1A 73 40 A4 26 ED BD
>
> ---
> You are currently subscribed to dsp as: ALFREDO.WELTERT@GALACTICA.IT
> To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

---
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To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 56. [dsp] Re: RDS decoding with Motorola EVM?

From: Eduardo Jacob <edu@kender.es>
Date: Fri, 14 May 1999 23:23:55 +0200
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-20825-1999.05.14-16.31.07--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 18:59 14/05/99 +0200, you wrote:
>There is an application note from Motorola for a microcontroller with source
>code.

        Would it be possible to have anymore information about it?

        Eduardo/EA2BAJ

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 57. [dsp] Re: FM demodulation

From: Douglas Braun <doug.braun@intel.com>
Date: Fri, 14 May 1999 17:23:10 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-20828-1999.05.14-17.28.34--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

This works OK.  Also, the atan() function code is out there.
Go grab <http://www.erols.com/dougbert/software/dgps.asm> for an example.

Doug
N1OWU

At 04:59 PM 5/14/99 +0000, you wrote:
>>What techniques can be used to demodulate FM using dsp?  The texts I have
>>don't say anything about this.
>
>A possible technique could be this. I haven't tried it, so feel free to
>correct me if I am wrong (it happened before...)
>
>Generate from your input signal the I and Q components, using the Hilbert
>transformer (a variant of a FIR filter). The I and Q components can be seen as
>the projections of a rotating vector (your input signal, now described as an
>analytical signal) on the real and imag axis. The phase of this rotating
>vector is simply  atan(Q/I) (pay attention to the quadrant uncertainty). Now,
>if you compute the actual phase difference between two samples, and its

>theoretical value if the frequency were not changing, the difference between
>these two values is proportional to the frequency modulation of the input
>signal.
>
>(Awaiting to be shot by the dsp gurus lurking here...)
>Alberto   I2PHD


---
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## 58. [dsp] Re: RDS decoding with Motorola EVM?

From: Thomas Sailer <sailer@ife.ee.ethz.ch>
Date: Mon, 17 May 1999 11:59:29 +0200
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-21088-1999.05.17-05.04.43--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Eduardo Jacob wrote:

>         Does anybody know if there is sources for decoding the RDS data with an EVM? I think that if
this is done it would be easy to decode from it the DGPS format. Any pointers or ideas?

I don't think that this is possible without hardware modifications, as the
RDS carrier is centered around approx. 70kHz in the FM demodulated baseband signal.

73s
Tom

---
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To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 59. [dsp] Re: RDS decoding with Motorola EVM?

From: Alfredo Weltert <alfredo.weltert@galactica.it>
Date: Mon, 17 May 1999 15:56:58 +0200
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-21118-1999.05.17-09.08.10--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The ST7330 form ST Microelectronics (www.st.com) is a  RDS decoder.
The IC outputs are data and clock at CMOS levels (1187.5Hz).


Thomas Sailer wrote:

> Eduardo Jacob wrote:
>
> >         Does anybody know if there is sources for decoding the RDS data with an EVM? I think that if
 this is done it would be easy to decode from it the DGPS format. Any pointers or ideas?
>
> I don't think that this is possible without hardware modifications, as the
> RDS carrier is centered around approx. 70kHz in the FM demodulated baseband signal.
>
> 73s
> Tom
>
> ---
> You are currently subscribed to dsp as: ALFREDO.WELTERT@GALACTICA.IT
> To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org



---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 60. [dsp] TAPR FTP dsp/upload 'permission denied'

From: "Thomas M. Alldread" <tma@mail.island.net>
Date: Mon, 17 May 1999 08:59:40 -0700
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-21137-1999.05.17-11.05.25--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Greetings:

        I have made several attempts to upload my latest version of TestTone to

the TAPR ftp dsp/upload site and I get a 'permission denied' ftp
response code 553 back. I looked up the code meaning and it indicates
'file name rejected'. The filenames are TestTone.txt, TestTone.cld and
TestTone.lod.

        This is my first experience with uploading files with ftp thus I
suspect I am probably doing something wrong. I wonder if anyone else
here has run into a similar problem or alternately has had recent
success uploading to the TAPR site?

73 and Thanks in Advance for any replies!!!
Tom, VE7TMA

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 61. [dsp] Re: TAPR FTP dsp/upload 'permission denied'

From: Greg Jones <wd5ivd@tapr.org>
Date: Mon, 17 May 1999 11:29:05 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Cc: "Lee  TAPR   Ziegenhals"<n5lyt@tapr.org>
Message-ID: <LYR3532-21140-1999.05.17-11.30.49--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Sorry you are having a problem.

We just changed the ftp area and it looks like a ftpaccess or file
premission has a problem.

I'll ask our sysadm to look at it today, since I am coming back from Dayton
today.

Cheers - Greg

>Greetings:
>
>       I have made several attempts to upload my latest version of TestTone to
>the TAPR ftp dsp/upload site and I get a 'permission denied' ftp
>response code 553 back. I looked up the code meaning and it indicates
>'file name rejected'. The filenames are TestTone.txt, TestTone.cld and
>TestTone.lod.
>
>       This is my first experience with uploading files with ftp thus I
>suspect I am probably doing something wrong. I wonder if anyone else
>here has run into a similar problem or alternately has had recent
>success uploading to the TAPR site?
>
>73 and Thanks in Advance for any replies!!!
>Tom, VE7TMA
>
>---
>You are currently subscribed to dsp as: WD5IVD@TAPR.ORG
>To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

-----
Greg Jones, WD5IVD                Austin, Texas
wd5ivd@tapr.org      http://www.tapr.org/~wd5ivd



---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 62. [dsp] Bandwidth required for 9600 baud

From: "Johann Lochner" <lochner@firga.sun.ac.za>
Date: Mon, 17 May 1999 19:25:46 GMT+0200
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-21144-1999.05.17-12.30.15--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Greetings,

I'm using an ICOM IC-821H for receiving 1200 and 9600 baud from SO-35
(Sunsat).  The eye diagram for 9600 baud (G3RUH) is not as open as
expected.  The radio's response was measured as -3dB at 5.3kHz and -6dB
at 7.1kHz.  Simulation clearly indicates that the bandwidth is too low
for distortionless reception.

ICOM used an SFH455E ceramic filter (specified to have at least 7.5kHz
wide at -6dB) in this radio.  It is accepted that the measured response
results not only from the IF filter.  However, might the problem not be
solved by replacing this filter with an SFH445C (12.5kHz wide at -6dB)
or an even wider filter?  Ideally it seems that one should aim for a
flat amplitude response up to around 7.2 kHz.  Why is such a narrow
filter used in the first place?

Thank you in advance,
Johann (ZR1CBC)

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 63. [dsp] RE: Bandwidth required for 9600 baud

From: Charl Cilliers <charlc@grintek.com>
Date: Tue, 18 May 1999 09:01:15 +0200
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-21247-1999.05.18-02.06.41--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Johann,
It would certainly help to put the wider filter in. Modems, especially the
G3RUH does not perform as expected when you reduce the bandwidth beyond that
of the Raised Cosine Shaping filters.
The G3RUH is fitted with a raised cosine filter of which you people there at
SUNSAT must have the specs. The Raised Cosine Filter determines the required
bandwidth that is needed by the modem. If W is the full bandwidth and Wn=W/2
is the minimum Nyquist bandwidth then the term (W-Wn) is called the excess
bandwidth. Additionally, R=(W-Wn)/Wn is defined as the roll-off factor of
the raised cosine pulse. It represent the excess bandwidth divided by the
filters Nyquist bandwidth
When R=1, the required excess bandwidth is 100% and such a system could
transmit Rs symbols/Hz utilising Rs Hz of bandwidth. When R=0 - you end up
with the Nyquist Bandwidth which is practically impossible to realise.
For the case of the G3RUH Modem on Sunsat, you have only got 6 to 7kHz
instead of 9600Hz. Your excess bandwidth could therefore not be 100%. If I
am not mistaken, the G3RUH has a excess bandwidth of 37.5% - but please do
not quote me on that - That boils down to a required bandwidth of
approximately 5.6kHz.
The Raised Cosine Filter is a great way of reducing bandwidth requirements
for PAM modems, but as everything else in this world - nothing comes for
free. The narrow bandwidth of the filter or any additional filtering in the
Satellite or the receiver equipment would cause zero crossing dispersion of
the eye pattern. This complicates the decoder because great care is needed
in the design of the receiver bit-clock recovery circuit. An adaptive
equaliser instead of the fixed raised cosine portion on the receiver would
also take care of your problem.
The reduction of required data bandwidth by the use of voice filters (and
not data filters) in a radio would certainly not make Nyquist invite you for
tea and cookies. If you widen your filters, the problem will reduce, but if
the raised cosine filter on the transmitter is narrow (37.5%) - the zero
crossing dispersion of the eye pattern will persist and you must spend some
time on the receiver implementation to counteract this problem.

The reason for the ICOM IC-821H having such a narrow filter bandwidth (and
believe me it is not narrow - normal voice bandwidth in military radio's is
in the order of 2.4kHz) is for selectivity between adjacent channels, noise
immunity and it was not probably not designed for 9600baud modems but for
1200 baud modems and voice communications.
Regards and good luck
Charl
> -----Original Message-----
> From: Johann Lochner [SMTP:lochner@firga.sun.ac.za]
> Sent: Monday, May 17, 1999 9:26 PM
> To:   TAPR DSP Special Interest Group
> Subject:      [dsp] Bandwidth required for 9600 baud
>
> Greetings,
>
> I'm using an ICOM IC-821H for receiving 1200 and 9600 baud from SO-35
> (Sunsat).  The eye diagram for 9600 baud (G3RUH) is not as open as
> expected.  The radio's response was measured as -3dB at 5.3kHz and -6dB
> at 7.1kHz.  Simulation clearly indicates that the bandwidth is too low
> for distortionless reception.
>
> ICOM used an SFH455E ceramic filter (specified to have at least 7.5kHz

> wide at -6dB) in this radio.  It is accepted that the measured response
> results not only from the IF filter.  However, might the problem not be
> solved by replacing this filter with an SFH445C (12.5kHz wide at -6dB)
> or an even wider filter?  Ideally it seems that one should aim for a
> flat amplitude response up to around 7.2 kHz.  Why is such a narrow
> filter used in the first place?
>
> Thank you in advance,
> Johann (ZR1CBC)
>
> ---
> You are currently subscribed to dsp as: CHARLC@GRINAKER.CO.ZA
> To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
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## 64. [dsp] Re: FM demodulation with dsp

From: TBaggett@AustinTX.net (Tim Baggett)
Date: Mon, 17 May 1999 09:39:29 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-21281-1999.05.18-09.54.46--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I can only suggest to do some long, hard looking. There are some copies
still available. Last I checked, the Stanford Univ bookstore still had a
few, and they will ship. They had a web site with contact information, but
I'll leave it as an exercise to the student to find the contact into. Be
prepared to pay around $100, but it is well worth it.

Also, and perhaps someone can help me with this, I heard a few rumors a
couple of months ago that the book was again in print. Anyone know any
details? Would be great if it is true, but I have my doubts...


73,
Tim


>The book  is out of stock.
>
>>
>> See Frerking's book starting page 249 for some real practical stuff.
>> Based on a differentiators or arctangent approaches. I have used the
>> differentiator idea and been quite happy with its performance.



---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 65. [dsp] Re: TAPR FTP dsp/upload 'permission denied'

From: TBaggett@AustinTX.net (Tim Baggett)
Date: Tue, 18 May 1999 22:03:28 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-21401-1999.05.18-21.56.54--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Tom, and others!

Thanks for bringing this to my attention, Tom. I got your email late Sunday
after returning from a ballooning trip to Vermont (awesome weather!). I
fixed the permissions problem, and of course, as luck would have it, my ISP
has had email problems since Sunday night.

If anyone has tried to upload to the DSP FTP site in the past week, please
try it again. If you do have problems, send me an email and I'll get it
fixed as soon as I can. Of course, if you do upload anything, email me so I
know to move the files into the general download area.

73,
Tim, AA5DF


-----Original Message-----
From: Thomas M. Alldread <tma@mail.island.net>
To: TAPR DSP Special Interest Group <dsp@lists.tapr.org>

Date: Tuesday, May 18, 1999 4:22 AM
Subject: [dsp] TAPR FTP dsp/upload 'permission denied'

> I have made several attempts to upload my latest version of TestTone to
>the TAPR ftp dsp/upload site and I get a 'permission denied' ftp
>response code 553 back. I looked up the code meaning and it indicates
>'file name rejected'. The filenames are TestTone.txt, TestTone.cld and
>TestTone.lod.=20
>
> This is my first experience with uploading files with ftp thus I
>suspect I am probably doing something wrong. I wonder if anyone else
>here has run into a similar problem or alternately has had recent
>success uploading to the TAPR site?

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 66. [dsp] Frerking (Was: Re: FM demodulation with dsp

From: Gary Chatters <gc@Radix.Net>
Date: Wed, 19 May 1999 15:27:18 -0400 (EDT)
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-21542-1999.05.19-14.32.36--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>
>I can only suggest to do some long, hard looking. There are some copies
>still available. Last I checked, the Stanford Univ bookstore still had a
>few, and they will ship. They had a web site with contact information, but
>I'll leave it as an exercise to the student to find the contact into. Be
>prepared to pay around $100, but it is well worth it.

Virginia Technical Books, http://www.vtbooks.com, lists Frerking's book
on their Engineering/Signal Processing order page for $125.
You might want to call before ordering to be sure they have it.

fatbrain.com says they have it in stock, ships same day.  Also, $125.

73,
Gary

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 67. [dsp] Re: FM demodulation with dsp

From: Donald E Haselwood <dhaselwood@ij.net>
Date: Wed, 19 May 1999 19:33:49 -0400
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-21598-1999.05.19-18.53.25--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Tim,

Thanks for the tip.  I ordered one from Stanford U bookstore ($125...sigh;
makes hardware look cheap!).  They had two on-the-shelf (and using higher
mathematics means they have one left).

Amazon.com showed the book out-of-stock and had a note to periodically check.

Regards,

Don

At 09:39 AM 5/17/99 -0500, you wrote:
>
>I can only suggest to do some long, hard looking. There are some copies
>still available. Last I checked, the Stanford Univ bookstore still had a
>few, and they will ship. They had a web site with contact information, but
>I'll leave it as an exercise to the student to find the contact into. Be
>prepared to pay around $100, but it is well worth it.
>
>Also, and perhaps someone can help me with this, I heard a few rumors a
>couple of months ago that the book was again in print. Anyone know any

>details? Would be great if it is true, but I have my doubts...
>
>
>73,
>Tim
>

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 68. [dsp] Re: Frerking (Was: Re: FM demodulation with dsp

From: TBaggett@AustinTX.net (Tim Baggett)
Date: Wed, 19 May 1999 22:24:53 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-21634-1999.05.19-22.18.42--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>Virginia Technical Books, http://www.vtbooks.com, lists Frerking's book
>on their Engineering/Signal Processing order page for $125.
>You might want to call before ordering to be sure they have it.
>
>fatbrain.com says they have it in stock, ships same day.  Also, $125.

Wow!

Excellent book, and definatly worth even $125 plus shipping. I would urge
anyone who is interested in learning DSP techniques for communications
applications to grab this book while they can.

Tim

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 69. [dsp] Re: Frerking (Was: Re: FM demodulation with dsp

From: "Steven R. Bible" <srbible@gate.net>
Date: Thu, 20 May 1999 16:59:02 -0400
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-21775-1999.05.20-16.05.12--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Another source is the San Diego Technical Book Store at

    http://www.sdtb.com/

Digital Signal Processing in Communication Systems
by Marvin E. Frerking
ISBN 0-442-01616-6
Publisher: Van Nostrand Reinhold

Price; US$125.50

73,

- Steve, N7HPR
  n7hpr@tapr.org
  n7hpr@amsat.org

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 70. [dsp] I Q baseband - RF translator

From: Charles Brain <chbrain@dircon.co.uk>
Date: Fri, 21 May 1999 17:19:50 +0100
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-21909-1999.05.21-11.29.44--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi All,

Does anyone know of a kit that will allow an IQ baseband signal
to be converted to and from 2m or 70cms. I want something that will
allow me to use the EVM as part of an experimental 2m/70cm radio. Save
me re-inventing the wheel.

- Charles

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 71. [dsp] Re: I Q baseband - RF translator

From: Jake Janovetz <janovetz@tempest.ece.uiuc.edu>
Date: Fri, 21 May 1999 11:23:08 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-21910-1999.05.21-11.33.06--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Charles,

  Check MiniCircuits (www.minicircuits.com).  They have quadrature
modulators that can do the quadrature mix for you.  You'd need a
local oscillator and then a post filter, though.
  Also check with Maxim (www.maxim-ic.com).  They carry similar
stuff.

    Cheers,
    Jake


On Fri, May 21, 1999 at 05:19:50PM +0100, Charles Brain wrote:
> Hi All,
>
> Does anyone know of a kit that will allow an IQ baseband signal
> to be converted to and from 2m or 70cms. I want something that will
> allow me to use the EVM as part of an experimental 2m/70cm radio. Save
> me re-inventing the wheel.
>
> - Charles
>
>
> ---
> You are currently subscribed to dsp as: JANOVETZ@UIUC.EDU
> To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

--
   janovetz@uiuc.edu    | Once you have flown, you will walk the earth with
 University of Illinois | your eyes turned skyward, for there you have been,
                        | there you long to return.     -- da Vinci
        PP-ASEL         | http://www.ews.uiuc.edu/~janovetz/index.html

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 72. [dsp] Re: I Q baseband - RF translator

From: Charles Brain <chbrain@dircon.co.uk>
Date: Fri, 21 May 1999 17:32:27 +0100
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-21912-1999.05.21-11.40.47--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Jake Janovetz wrote:
>
> Charles,
>
>   Check MiniCircuits (www.minicircuits.com).  They have quadrature
> modulators that can do the quadrature mix for you.  You'd need a
> local oscillator and then a post filter, though.
>   Also check with Maxim (www.maxim-ic.com).  They carry similar
> stuff.
>
>     Cheers,
>     Jake
>

I am not after individual components, I am after a complete board.
Someone has already done one for the microwave bands, I was just hoping
such a thing might exist for the lower bands. After all it is a pretty
obvious thing to do.

If I was going to go for components I would probably go for RF micro.devices.

Thanks all the same.

- Charles

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 73. [dsp] Re: I Q baseband - RF translator

From: Johan Forrer <forrerj@peak.org>
Date: Fri, 21 May 1999 11:02:15 -0700 (PDT)
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-21922-1999.05.21-13.06.30--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Charles,

Have you looked at www.ao.com/~GNOME ? That may be what you
are looking for.

Johan


On Fri, 21 May 1999, Charles Brain wrote:

> Hi All,
>
> Does anyone know of a kit that will allow an IQ baseband signal
> to be converted to and from 2m or 70cms. I want something that will
> allow me to use the EVM as part of an experimental 2m/70cm radio. Save
> me re-inventing the wheel.
>
> - Charles
>
>
> ---
> You are currently subscribed to dsp as: FORRERJ@PEAK.ORG
> To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
>
>


---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 74. [dsp] Re: I Q baseband - RF translator

From: Charles Brain <chbrain@dircon.co.uk>
Date: Fri, 21 May 1999 20:25:51 +0100
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-21930-1999.05.21-14.34.12--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Johan Forrer wrote:
>
> Charles,
>
> Have you looked at www.ao.com/~GNOME ? That may be what you
> are looking for.
>
> Johan
>
Hello Johan,

Well I had another look at their site, nothing much has happened in the last year
and they seem to have given up on the hardware development in favour of the software
side (I know the feeling!).

On another front, I finally managed to get my complex baseband adaptive equalizer to
function, there either appears to be a mistake in the Frerking book or I have misunderstood
his description. In the end I had to refer to Simon Hakin's book on "Adaptive Filter Theory"
ISBN 0-13-013236-5 Prentice Hall

and that has a missing minus sign in the diagram, fortunately he shows the maths as well.

It is fun to watch the filter's coefficients adapt.

- Charles

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 75. [dsp] Re: I Q baseband - RF translator

From: tom.king@kcrw.org (Tom King)
Date: Fri, 21 May 1999 15:09:47 -0700
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-21941-1999.05.21-17.15.45--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Several years ago Rick Campbell KK7B did some work with this..he called
them the
R2 Receiver and T2 transmitter... The articles were in QST.

His concept was rooted in 88mh coil low pass filters at audio but did
output I and Q
signals.

I believe that they were not kits but boards were/are available.

Tom KA6SOX
tking@kcrw.org

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 76. [dsp] Re: I Q baseband - RF translator

From: John Conner <conner@EmpireDI.com>
Date: Fri, 21 May 1999 16:32:40 -0600
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-21944-1999.05.21-17.38.04--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>
>
> Several years ago Rick Campbell KK7B did some work with this..he called
> them the
> R2 Receiver and T2 transmitter... The articles were in QST.
Check out Kanga-US they are selling the kits.  www.bright.net/~kanga/kanga
I think is their URL.

John
wd0fhg

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 77. [dsp] Re: I Q baseband - RF translator

From: Rob Frohne <frohro@wwc.edu>
Date: Fri, 21 May 1999 14:13:29 -0700 (PDT)
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-21956-1999.05.21-19.06.12--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Charles,

You can see what I did with the R2 receiver and the EVM at
http://www.wwc.edu/~frohro/R2-DSP.html

73,

Rob, KL7NA/W7
>
> >
> >
> > Several years ago Rick Campbell KK7B did some work with this..he called
> > them the
> > R2 Receiver and T2 transmitter... The articles were in QST.

> Check out Kanga-US they are selling the kits.  www.bright.net/~kanga/kanga
> I think is their URL.
>
> John
> wd0fhg
>
> ---
> You are currently subscribed to dsp as: FROHRO@WWC.EDU
> To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
>
>


---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 78. [dsp] Re: I Q baseband - RF translator

From: TBaggett@AustinTX.net (Tim Baggett)
Date: Fri, 21 May 1999 22:28:57 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-21975-1999.05.21-22.21.21--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>Several years ago Rick Campbell KK7B did some work with this..he called
>them the
>R2 Receiver and T2 transmitter... The articles were in QST.
>
>His concept was rooted in 88mh coil low pass filters at audio but did
>output I and Q
>signals.



And.....didn't someone interface a 56002 EVM with this R2/T2?? I seem to
remember seeing an article about it a few years ago.

Tim



---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 79. [dsp] Re: I Q baseband - RF translator

From: forrerj@peak.org (Johan Forrer)
Date: Sat, 22 May 1999 12:02:34 -0800
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-22083-1999.05.22-14.10.18--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello Charles,



>> Have you looked at www.ao.com/~GNOME ? That may be what you
>> are looking for.


>Hello Johan,
>
>Well I had another look at their site, nothing much has happened in the
last year
>and they seem to have given up on the hardware development in favour of the
software
>side (I know the feeling!).

Some rework of the PCB, a bit of redisign of the synthesizer, but most
recent activity is work on a series of articles for QST. I think there will
be three of them and there will be a hardware kit too. So keep an
eye out for that.



>On another front, I finally managed to get my complex baseband adaptive
equalizer to
>function, there either appears to be a mistake in the Frerking book or I
have misunderstood

>his description. In the end I had to refer to Simon Hakin's book on
"Adaptive Filter Theory"
>ISBN 0-13-013236-5 Prentice Hall
>and that has a missing minus sign in the diagram, fortunately he shows the
maths as well.

Interesting .... I did play around quite a bit with LMS stuff, but mostly
watched
the results. Monitoring the coeffients change would be fun especially for
and equalizer. What effects are you observing ?

Otherwise, starting to get ready for my presentation in all honesty.
I have torn between working on too many things and really not been
able, or rather no energy left, to work on fun things. But slowly I am
catching on the backlog. The ex was not much of a housewife and I am
in the process of cleaning up 8 year-old messes. Also dumping a lot
of old useless stuff and it is amazing how livable the house beginning to
look like. I even will have a spare bedroom -- so keep that in mind if you
ever want to come for a visit!
The new sun room that I had built on is also getting on to completion.
I finished laying some 450 ceramic floor tiles and ready to finish a little
bit of wood trim there. I wired the wall for telephone, RJ45 network,
satellite TV and lots of power outlets for toys.

OK, will chat more later, 73

Johan

PS. I'll pay your web sit a visit later to download all the materials I need
for the presentation. I already had a number of  enquiries about it, and
looks like there will be a good turn out.

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 80. [dsp] TestTone - EVM alignment program on TAPR FTP site

From: "Thomas M. Alldread" <tma@mail.island.net>
Date: Sun, 23 May 1999 20:29:51 -0700
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-22283-1999.05.23-22.35.50--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Greetings:

        Just a short note to let everyone here know that 'TestTone', a 56002EVM
two-tone sine wave generator and control alignment software tool, can
now be downloaded from the following site:

ftp://www.tapr.org/dsp/Motorola/dsp56002/evm56k/

73 and Enjoy!
Tom, VE7TMA

tma@island.net

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 81. [dsp] Flash Help

From: Zennaro Marco <zennaro@ictp.trieste.it>
Date: Tue, 25 May 1999 16:24:03 +0200 (MET DST)
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-22545-1999.05.25-09.32.28--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I still have some problems programming the eprom of my EVM56002. I need to
use Bios2 and Fsk1200, and I have a 28c256 eprom. Could anyone please
explain me how to put these programs on the eprom? Do I have to change
something in the .asm files?
Thanks for your help,
Marco Zennaro

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org

To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 82. [dsp] Re: Flash Help

From: bsmeds@esoc.esa.de
Date: Wed, 26 May 1999 14:32:11 +0100
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-22724-1999.05.26-07.39.49--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

You may have a problem using the 28C256. The EVM56002 should have a 29C256
EEPROM.
The two are not the same. You can find data sheets at
http://www.atmel.com/atmel/products/products1.html

Regards
Boris DJ0EX SM0GJ

Zennaro Marco <zennaro@ictp.trieste.it> on 99-05-25 15:24:03

Please respond to "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>

To:   "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
cc:    (bcc: Boris Smeds/esoc/ESA)
Subject:  [dsp] Flash Help

I still have some problems programming the eprom of my EVM56002. I need to
use Bios2 and Fsk1200, and I have a 28c256 eprom. Could anyone please
explain me how to put these programs on the eprom? Do I have to change
something in the .asm files?
Thanks for your help,
Marco Zennaro

---
You are currently subscribed to dsp as: BSMEDS@ESOC.ESA.DE
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 83. [dsp] 38k4 Modem

From: "Stacey E. Mills, M.D." <w4sm@cstone.net>
Date: Wed, 26 May 1999 09:06:34 -0400
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-22729-1999.05.26-08.12.12--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Does anyone have a 38,400 baud modem for the DSP560002EVM that will decode
the newer high speed digital sats (TO-31, UO-12)?  (...assuming one has a
radio with enough bandwidth for the signal).  Ideally, the modem should be
9600 baud "up" (output) and 38,400 "down" (input).

Thanks.

--
_____________________________________________________________
Stacey E. Mills, M.D.  WEB:  http://www.people.virginia.edu/~sem2r/
Charlottesville, VA    E-Mail: sem2r@virginia.edu or w4sm@cstone.net
                              Office Phone: 804-982-4406  Fax: 804-924-8767
_____________________________________________________________

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 84. [dsp] Re: 38k4 Modem

From: Johan Forrer <forrerj@peak.org>
Date: Wed, 26 May 1999 08:30:00 -0700 (PDT)
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-22742-1999.05.26-10.34.40--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Stacy,

Sorry I dont have an answer, but curious about
what modulation is used there. Sounds like
a telephone-type QAM modem. I have not seen any
public domain code for such V.xx standards yet --
only snippets of code.

Could you perhaps give a pointer where we can find out
more about this communication standard please.

Thanks,

Johan, KC7WW

On Wed, 26 May 1999, Stacey E. Mills, M.D. wrote:

> Does anyone have a 38,400 baud modem for the DSP560002EVM that will decode
> the newer high speed digital sats (TO-31, UO-12)?  (...assuming one has a
> radio with enough bandwidth for the signal).  Ideally, the modem should be
> 9600 baud "up" (output) and 38,400 "down" (input).
>
> Thanks.
>
> --
> _____________________________________________________________
> Stacey E. Mills, M.D.  WEB:  http://www.people.virginia.edu/~sem2r/
> Charlottesville, VA    E-Mail: sem2r@virginia.edu or w4sm@cstone.net
>                            Office Phone: 804-982-4406  Fax: 804-924-8767
> _____________________________________________________________
>
> ---
> You are currently subscribed to dsp as: FORRERJ@PEAK.ORG
> To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
>
>

---
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To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 85. [dsp] Re: 38k4 Modem

From: Douglas Braun <doug.braun@intel.com>
Date: Wed, 26 May 1999 10:24:07 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-22743-1999.05.26-10.34.55--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Will the audio bandwidth of the codec be sufficient for this?  Can
you point me to some information on this new data format?

Thnaks,

Doug
N1OWU

At 09:06 AM 5/26/99 -0400, you wrote:
>
>Does anyone have a 38,400 baud modem for the DSP560002EVM that will decode
>the newer high speed digital sats (TO-31, UO-12)?  (...assuming one has a
>radio with enough bandwidth for the signal).  Ideally, the modem should be
>9600 baud "up" (output) and 38,400 "down" (input).
>

---
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## 86. [dsp] 38k4 modem

From: "Stacey E. Mills, M.D." <w4sm@cstone.net>
Date: Wed, 26 May 1999 15:26:40 -0400
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Cc: dsp@tapr.org
Message-ID: <LYR3532-22769-1999.05.26-14.32.26--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Dear Johan/Doug, et al.,

   Here's a note I received from Peter Guelzow, which confirms my
assumptions about the new higher speed modem, it's just a "souped up" 9k6
modem with all the attendant bandwidth changes. Can this be done with the
DSP56002EVM  ie. a 9600 baud FSK on uplink and a full duplex 38k4 baud on
downlink????


>Hi Stacey,
>the 38k4 downlink is exactly the same as with 9k6, i.e. same FSK modulation
>with G3RUH filtering. Protocol between the TNC and Wisp is also KISS (SMACK)
>like with 9k6. Indeed, the RS232 must be at least twice as fast, so I let
>the RS232 port running at 57600 baud.  This is because the effective
>baudrate is higher than the HDLC (synchronous) baudrate...
>
>>    Do you run WISP with your setup at 38k4 baud???
>
>Yes, but indeed with 57k6 on the COM port.  I have loaded RKISS into
>the TNC31S, so that it always comes up in KISS mode (SMACK)..
>
>Best 73s de Peter



--
_____________________________________________________________
Stacey E. Mills, M.D.  WEB:  http://www.people.virginia.edu/~sem2r/
Charlottesville, VA    E-Mail: sem2r@virginia.edu or w4sm@cstone.net
                              Office Phone: 804-982-4406  Fax: 804-924-8767
_____________________________________________________________

---
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To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 87. [dsp] Re: 38k4 modem

From: Charles Brain <chbrain@dircon.co.uk>
Date: Wed, 26 May 1999 20:38:05 +0100
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-22773-1999.05.26-14.46.50--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

"Stacey E. Mills, M.D." wrote:
>
> Dear Johan/Doug, et al.,
>
>    Here's a note I received from Peter Guelzow, which confirms my
> assumptions about the new higher speed modem, it's just a "souped up" 9k6
> modem with all the attendant bandwidth changes. Can this be done with the
> DSP56002EVM  ie. a 9600 baud FSK on uplink and a full duplex 38k4 baud on
> downlink????
>

No.

- Charles

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 88. [dsp] Re: MILCOMM 97

From: Charles Brain <chbrain@dircon.co.uk>
Date: Wed, 26 May 1999 20:50:40 +0100
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-22775-1999.05.26-14.59.27--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

This is quite interesting,

http://www.argreenhouse.com/society/TacCom/papers.shtml

- Charles

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 89. [dsp] Re: 38k4 modem

From: Tim Baggett <aa5df@yahoo.com>
Date: Wed, 26 May 1999 13:48:12 -0700 (PDT)
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-22785-1999.05.26-15.52.35--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

--- Charles Brain <chbrain@dircon.co.uk> wrote:
> "Stacey E. Mills, M.D." wrote:
> >
> > Dear Johan/Doug, et al.,
> >
> >    Here's a note I received from Peter Guelzow, which confirms my
> > assumptions about the new higher speed modem, it's just a "souped up" 9k6
> > modem with all the attendant bandwidth changes. Can this be done with the
> > DSP56002EVM  ie. a 9600 baud FSK on uplink and a full duplex 38k4 baud on
> > downlink????
> >
>
> No.
>
> - Charles


What other platforms might support a 38k4 modem? I realize that the CODEC on
the 002EVM samples at 50Ksps max. What about other DSP eval boards? Are there
any sound cards that sample at 96Ksps? (although I realize their anti-alias
filters probably start to attenuate in the 25-30 KHz range as well.)

73,
Tim

_____
Do You Yahoo!?
Get your free @yahoo.com address at http://mail.yahoo.com


---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 90. [dsp] Re: 38k4 modem

From: Jake Janovetz <janovetz@tempest.ece.uiuc.edu>
Date: Wed, 26 May 1999 16:20:08 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-22791-1999.05.26-16.30.39--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The '002 is has an expansion bus that is very easy to interface
to.  An A/D board could be built with custom anti-alias filters
for cheap.  (less than $50 if 10-20 people bought them)
Just something you may want to keep in mind.  The usefulness of
such a board extends the capability of the 002 quite a bit.  Those
CODECs limit things a lot.

   Cheers,
   Jake


On Wed, May 26, 1999 at 01:48:12PM -0700, Tim Baggett wrote:
>
>
> --- Charles Brain <chbrain@dircon.co.uk> wrote:
> > "Stacey E. Mills, M.D." wrote:
> > >
> > > Dear Johan/Doug, et al.,
> > >
> > >    Here's a note I received from Peter Guelzow, which confirms my
> > > assumptions about the new higher speed modem, it's just a "souped up" 9k6
> > > modem with all the attendant bandwidth changes. Can this be done with the
> > > DSP56002EVM  ie. a 9600 baud FSK on uplink and a full duplex 38k4 baud on

> > > downlink????
> > >
> >
> > No.
> >
> > - Charles
>
>
> What other platforms might support a 38k4 modem? I realize that the CODEC on
> the 002EVM samples at 50Ksps max. What about other DSP eval boards? Are there
> any sound cards that sample at 96Ksps? (although I realize their anti-alias
> filters probably start to attenuate in the 25-30 KHz range as well.)
>
> 73,
> Tim
>
> _____
> Do You Yahoo!?
> Get your free @yahoo.com address at http://mail.yahoo.com
>
>
> ---
> You are currently subscribed to dsp as: JANOVETZ@UIUC.EDU
> To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

--
   janovetz@uiuc.edu    | Once you have flown, you will walk the earth with
 University of Illinois | your eyes turned skyward, for there you have been,
                        | there you long to return.     -- da Vinci
        PP-ASEL         | http://www.ews.uiuc.edu/~janovetz/index.html

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 91. [dsp] Re: 38k4 modem

From: Charles Brain <chbrain@dircon.co.uk>
Date: Wed, 26 May 1999 23:01:16 +0100
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-22798-1999.05.26-17.10.03--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Tim Baggett wrote:
>
> What other platforms might support a 38k4 modem? I realize that the CODEC on
> the 002EVM samples at 50Ksps max. What about other DSP eval boards? Are there
> any sound cards that sample at 96Ksps? (although I realize their anti-alias
> filters probably start to attenuate in the 25-30 KHz range as well.)
>
> 73,
> Tim
>
I believe Crystal do A/D and D/As that sample at 100ks/s. But there are people
on here that know more than I about them. They also do evaluation boards as well and use
a standard 'DSP' serial interface. I am not sure what sample rate is the minimum
you can get away with to get the bit timing optimized. I like the TI codecs where
you can advance/retard the sample timing, if I remember at 1/64th the sample rate?

I have bought an evaluation board for XILINX Spartan DSP development, but I have
not got around to learning how to use it yet. It comes with an 18 bit BURR-BROWN
codec but that is limited to 50 ks/s I think. But for high speed dedicated DSP,
FPGA seems to be the way to go. They have quite an extensive DSP library.

- Charles

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
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## 92. [dsp] Re: 38k4 modem

From: Johan Forrer <forrerj@peak.org>
Date: Wed, 26 May 1999 16:23:31 -0700 (PDT)
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-22805-1999.05.26-18.28.32--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi,

100KSPS on a 80MHz EVM leaves only 400 ticks to do

something between sample points. Think you can do
a demodulator + HDLC in 400 ticks? I would be greatly
impressed.

The problem here is that they traded off a very sparse
constellation (2-points) and lots of bandwidth against
a dense constellation (say 64 points) and a narrow
bandwith. Was the latter used, the symbol rate would
have been lower and and EVM could to the job, similar
to a V90-style modem. However, one would have needed a
much more favorable SNR and I dont think they had a
choice with the satellite -- or did they?

I think Charles is right that one need FPGA DSP to
do this kind of thing.

73,

Johan, KC7WW

On Wed, 26 May 1999, Jake Janovetz wrote:

> The '002 is has an expansion bus that is very easy to interface
> to.  An A/D board could be built with custom anti-alias filters
> for cheap.  (less than $50 if 10-20 people bought them)
> Just something you may want to keep in mind.  The usefulness of
> such a board extends the capability of the 002 quite a bit.  Those
> CODECs limit things a lot.
>
>    Cheers,
>    Jake
>
>
> On Wed, May 26, 1999 at 01:48:12PM -0700, Tim Baggett wrote:
> >
> >
> > --- Charles Brain <chbrain@dircon.co.uk> wrote:
> > > "Stacey E. Mills, M.D." wrote:
> > > >
> > > > Dear Johan/Doug, et al.,
> > > >
> > > >    Here's a note I received from Peter Guelzow, which confirms my
> > > > assumptions about the new higher speed modem, it's just a "souped up" 9k6
> > > > modem with all the attendant bandwidth changes. Can this be done with the
> > > > DSP56002EVM  ie. a 9600 baud FSK on uplink and a full duplex 38k4 baud on
> > > > downlink????
> > > >
> > >
> > > No.
> > >
> > > - Charles
> >
> >
> > What other platforms might support a 38k4 modem? I realize that the CODEC on
> > the 002EVM samples at 50Ksps max. What about other DSP eval boards? Are there
> > any sound cards that sample at 96Ksps? (although I realize their anti-alias
> > filters probably start to attenuate in the 25-30 KHz range as well.)
> >
> > 73,
> > Tim
> >
> > _____________________________________________________________
> > Do You Yahoo!?
> > Get your free @yahoo.com address at http://mail.yahoo.com
> >
> >
> > ---
> > You are currently subscribed to dsp as: JANOVETZ@UIUC.EDU
> > To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
>
> --
>    janovetz@uiuc.edu    | Once you have flown, you will walk the earth with
>  University of Illinois | your eyes turned skyward, for there you have been,
>                         | there you long to return.     -- da Vinci
>         PP-ASEL         | http://www.ews.uiuc.edu/~janovetz/index.html
>
> ---

> You are currently subscribed to dsp as: FORRERJ@PEAK.ORG
> To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
>
>

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 93. [dsp] Re: 38k4 modem

From: Tim Baggett <aa5df@yahoo.com>
Date: Wed, 26 May 1999 16:44:55 -0700 (PDT)
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-22808-1999.05.26-18.49.36--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> 100KSPS on a 80MHz EVM leaves only 400 ticks to do
> something between sample points. Think you can do
> a demodulator + HDLC in 400 ticks? I would be greatly
> impressed.

This does get away from the original post regarding the feasability of the
56002EVM...

Would a similar board with the 100 Ksps A/D provide sufficent processing power?
A 100 MHz 56307 could provide you with around 1500 ticks per sample period (if
you move filtering into the filter co-processor). The recently announced 56311
can do even more.

73,
Tim

_____
Do You Yahoo!?
Get your free @yahoo.com address at http://mail.yahoo.com

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 94. [dsp] Re: 38k4 modem

From: Lyle Johnson <lylej@azstarnet.com>
Date: Thu, 27 May 1999 00:49:47 +0100
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-22816-1999.05.26-19.55.26--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 04:23 PM 5/26/99 -0700, you wrote:
>Hi,
>
>100KSPS on a 80MHz EVM leaves only 400 ticks to do
>something between sample points. Think you can do
>a demodulator + HDLC in 400 ticks? I would be greatly
>impressed.

At work we run a 9K6 FSK modem on a 20 MHz Analog Devices fixed point DSP
(ADSP-2115). We are sampling at 38.4 kHz, I think. We're not doing the
HDLC mind you, just the MODEM. But then 1200 bit/sec HDLC can be done in
real time on a 1.7 MHz Z80 (ht old Bob Richardson TRS-80 code), so it
doesn't take much bandwidth to do that part once you have the bits.

Anyway, at 80 MHz we could sample at 115.2 kilohertz and still do the same
thing.

I don't know how many cycles are left after the demodulator has done its
thing. I guess I'm suggesting that it *may* be possible. An ADC would be
pretty easy...

>...However, one would have needed a
>much more favorable SNR and I dont think they had a
>choice with the satellite -- or did they?

Always a problem with a spacecraft. Downlink is a major problem. PSK woul
dhave been more efficient, but then you need a wideband SSB receiver...

Regards,

Lyle

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 95. [dsp] Re: 38k4 modem

From: Douglas Braun <doug.braun@intel.com>
Date: Wed, 26 May 1999 21:59:23 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-22831-1999.05.26-22.05.11--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I was wondering:  What type of modem are the satellite operators themselves
using?  Do they have a design that they recommend for sat users?

Doug
N1OWU

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 96. [dsp] Re: 38k4 modem

From: Jake Janovetz <janovetz@tempest.ece.uiuc.edu>
Date: Wed, 26 May 1999 22:37:49 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-22840-1999.05.26-22.48.29--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

As much as I like the Motorola DSPs, they aren't
very well suited to communications work.  TI's offerings
at the same price point would do this better.

100 kSPS is not beyond the realm of DSPs.  FPGAs typically
come in at 250 kSPS and above.  They really shine at 10 MSPS
and beyond.

   Cheers,
   Jake


On Wed, May 26, 1999 at 04:23:31PM -0700, Johan Forrer wrote:
> Hi,
>
> 100KSPS on a 80MHz EVM leaves only 400 ticks to do
> something between sample points. Think you can do
> a demodulator + HDLC in 400 ticks? I would be greatly
> impressed.
>
> The problem here is that they traded off a very sparse
> constellation (2-points) and lots of bandwidth against
> a dense constellation (say 64 points) and a narrow
> bandwith. Was the latter used, the symbol rate would
> have been lower and and EVM could to the job, similar
> to a V90-style modem. However, one would have needed a
> much more favorable SNR and I dont think they had a
> choice with the satellite -- or did they?
>
> I think Charles is right that one need FPGA DSP to
> do this kind of thing.
>
> 73,
>
> Johan, KC7WW
>
>
>
> On Wed, 26 May 1999, Jake Janovetz wrote:
>
> > The '002 is has an expansion bus that is very easy to interface
> > to.  An A/D board could be built with custom anti-alias filters
> > for cheap.  (less than $50 if 10-20 people bought them)
> > Just something you may want to keep in mind.  The usefulness of
> > such a board extends the capability of the 002 quite a bit.  Those
> > CODECs limit things a lot.

> >
> >    Cheers,
> >    Jake
> >
> >
> > On Wed, May 26, 1999 at 01:48:12PM -0700, Tim Baggett wrote:
> > > >
> > > >
> > > > --- Charles Brain <chbrain@dircon.co.uk> wrote:
> > > > > "Stacey E. Mills, M.D." wrote:
> > > > > >
> > > > > > Dear Johan/Doug, et al.,
> > > > > >
> > > > > >    Here's a note I received from Peter Guelzow, which confirms my
> > > > > > assumptions about the new higher speed modem, it's just a "souped up" 9k6
> > > > > > modem with all the attendant bandwidth changes. Can this be done with the
> > > > > > DSP56002EVM  ie. a 9600 baud FSK on uplink and a full duplex 38k4 baud on
> > > > > > downlink????
> > > > > >
> > > > > >
> > > > > > No.
> > > > > >
> > > > > > - Charles
> > > > >
> > > > >
> > > > > What other platforms might support a 38k4 modem? I realize that the CODEC on
> > > > > the 002EVM samples at 50Ksps max. What about other DSP eval boards? Are there
> > > > > any sound cards that sample at 96Ksps? (although I realize their anti-alias
> > > > > filters probably start to attenuate in the 25-30 KHz range as well.)
> > > > >
> > > > > 73,
> > > > > Tim
> > > > >
> > > > > _____________________________________________________________
> > > > > Do You Yahoo!?
> > > > > Get your free @yahoo.com address at http://mail.yahoo.com
> > > > >
> > > > >
> > > > > ---
> > > > > You are currently subscribed to dsp as: JANOVETZ@UIUC.EDU
> > > > > To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
> > > >
> > > > --
> > >    janovetz@uiuc.edu    | Once you have flown, you will walk the earth with
> > >  University of Illinois | your eyes turned skyward, for there you have been,
> > >                         | there you long to return.     -- da Vinci
> > >         PP-ASEL         | http://www.ews.uiuc.edu/~janovetz/index.html
> > >
> > > ---
> > > You are currently subscribed to dsp as: FORRERJ@PEAK.ORG
> > > To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
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> > >
> >
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--
   janovetz@uiuc.edu    | Once you have flown, you will walk the earth with
 University of Illinois | your eyes turned skyward, for there you have been,
                        | there you long to return.     -- da Vinci
        PP-ASEL         | http://www.ews.uiuc.edu/~janovetz/index.html

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 97. [dsp] Re: 38k4 modem

From: John Melton <John.Melton@uk.sun.com>
Date: Thu, 27 May 1999 08:51:38 +0100 (BST)
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-22870-1999.05.27-02.56.10--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I have some prototype code for the EVM that supports 38k4 (also split 9k6 and 38k4).

I will check with the authors to see if I can make it available on the list.

I did some early testing with TMSat,  but the downlink at 38k4 was not very
good.

I do not have antennas up at the moment,  so cannot give any indication of how
it works with UoSAT 12.


-- John Melton  n6lyt/g0orx


---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 98. [dsp] Re: 38k4 modem

From: Charles Brain <chbrain@dircon.co.uk>
Date: Thu, 27 May 1999 10:20:26 +0100
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-22872-1999.05.27-05.00.57--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

John Melton wrote:
>
> I have some prototype code for the EVM that supports 38k4 (also split 9k6 and 38k4).

O.K I will rephrase that.

The maximum sample rate of the EVM's Crystal codec is 48 ks/s. Because of the anti-alias
filter the maximum usable (0.45Fs from data sheet) frequency is 21.6 Khz. The baseband
cut-off frequency of the raised cosine filter needs to be about 0.6 of the baud-rate.
Therefore the sample rate for 38k4 would have to be 51.2 ks/s.

Provided my figures are correct then it would probably work after a fashion.
^^^^^^^^

Seems to me to be simpler to use something like the FX589 chip + scrambler.

- Charles



---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 99. [dsp] Re: 38k4 modem

From: Jake Janovetz <janovetz@tempest.ece.uiuc.edu>
Date: Thu, 27 May 1999 08:35:50 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-22908-1999.05.27-08.47.00--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Can someone tell me what the baud rate of the 38k4 modem is?
Clearly, it is 38400 bits per second, but is it a BPSK modem,
QPSK, or (as someone else alluded to) QAM?  What is the
constellation?

    Cheers,
    Jake



On Thu, May 27, 1999 at 10:20:26AM +0100, Charles Brain wrote:
>
>
> John Melton wrote:
> >
> > I have some prototype code for the EVM that supports 38k4 (also split 9k6 and 38k4).
>
> O.K I will rephrase that.
>
> The maximum sample rate of the EVM's Crystal codec is 48 ks/s. Because of the anti-alias
> filter the maximum usable (0.45Fs from data sheet) frequency is 21.6 Khz. The baseband
> cut-off frequency of the raised cosine filter needs to be about 0.6 of the baud-rate.
> Therefore the sample rate for 38k4 would have to be 51.2 ks/s.
>
> Provided my figures are correct then it would probably work after a fashion.
> ^^^^^^^^

>
> Seems to me to be simpler to use something like the FX589 chip + scrambler.
>
> - Charles
>
>
>
> ---
> You are currently subscribed to dsp as: JANOVETZ@UIUC.EDU
> To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

--
   janovetz@uiuc.edu    | Once you have flown, you will walk the earth with
 University of Illinois | your eyes turned skyward, for there you have been,
                        | there you long to return.     -- da Vinci
        PP-ASEL         | http://www.ews.uiuc.edu/~janovetz/index.html

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 100. [dsp] Re: 38k4 modem

From: Charles Brain <chbrain@dircon.co.uk>
Date: Thu, 27 May 1999 14:44:16 +0100
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-22918-1999.05.27-08.53.28--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Jake Janovetz wrote:
>
> Can someone tell me what the baud rate of the 38k4 modem is?
> Clearly, it is 38400 bits per second, but is it a BPSK modem,
> QPSK, or (as someone else alluded to) QAM?  What is the
> constellation?
>
>     Cheers,
>     Jake
>
I had assumed it was just a faster RUH modem.

- Charles

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 101. [dsp] Re: 38k4 modem

From: Lyle Johnson <lylej@azstarnet.com>
Date: Thu, 27 May 1999 15:18:26 +0100
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-22938-1999.05.27-10.24.02--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>> Can someone tell me what the baud rate of the 38k4 modem is?
>> Clearly, it is 38400 bits per second, but is it a BPSK modem,
>> QPSK, or (as someone else alluded to) QAM?  What is the
>> constellation?
>
>I had assumed it was just a faster RUH modem.

The UoSAT-12 Home Page is a little sketchy, but shows a 9.6 to 76.8
kbit/sec UHF downlink to a 50-W transmitter.  Based on previous missions
and methods, I am >99% confident this is a raised-cosine-spectrum FSK
signal encoded 1 bit/baud.

Lyle

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 102. [dsp] Re: 38k4 modem

From: Johan Forrer <forrerj@peak.org>
Date: Thu, 27 May 1999 08:57:39 -0700 (PDT)
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-22957-1999.05.27-11.02.34--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi all,

I just received a copy of an 38k4 modem for the EVM from
Jabi, EA2ARU. When I get a chance I'll look at it in
more detail.  I do not have any means to test something like
this over the air, but can do a back to back test with
two EVMs at least.

Perhaps Jabi would be kind enough in sharing this with
the amateur community -- I will ask him nicely.

73,

Johan.

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 103. [dsp] Re: 38k4 modem

From: John Melton - Sun UK - ENS <John.Melton@UK.Sun.COM>
Date: Fri, 28 May 1999 08:00:50 +0100 (BST)
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-23061-1999.05.28-02.06.33--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>
> I just received a copy of an 38k4 modem for the EVM from
> Jabi, EA2ARU. When I get a chance I'll look at it in
> more detail.  I do not have any means to test something like
> this over the air, but can do a back to back test with
> two EVMs at least.
>
> Perhaps Jabi would be kind enough in sharing this with
> the amateur community -- I will ask him nicely.

This is the code I have,  and Jabi has said it is OK to make the Beta code
available.

If anyone wants a copy by email, just ask,  and I will mail it, otherwise I will try
to put it up on my website over the weekend.

I have run this back to back with a FX589 based modem with no problems,  but due to
my antennas being down have not been able to test with UoSAT-12.  I did some testing
with TMSat with minimal success,  but (according to Chris Jackson) the tranmitter on
TMSat has some problems at 38k4 and Surrey were also having problems receiving it.

My understanding is that Surrey are using a G3RUH modem modified for 38k4.  The
reuired changes have been published.

-- John Melton  n6lyt/g0orx

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 104. [dsp] Re: 38k4 modem

From: Kenneth R Jaskowiak <krjbve@ma.ultranet.com>
Date: Fri, 28 May 1999 03:08:45 -0400 (EDT)
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-23063-1999.05.28-02.14.29--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello John,

You are probably flooded by these now.  :)

Please send a copy of the beta code via email.

Thanks in advance,

Ken Jaskowiak
ka0mge

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 105. [dsp] Re: 38k4 modem

From: TBaggett@AustinTX.net (Tim Baggett)
Date: Fri, 28 May 1999 09:37:23 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-23090-1999.05.28-09.27.49--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>>
>> Perhaps Jabi would be kind enough in sharing this with
>> the amateur community -- I will ask him nicely.
>
>This is the code I have,  and Jabi has said it is OK to make the Beta code
>available.
>
>If anyone wants a copy by email, just ask,  and I will mail it, otherwise I
will try
>to put it up on my website over the weekend.

John,

Can we get authorization to place it on the TAPR DSP FTP site as well?

73,
Tim

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 106. [dsp] Re: 38k4 modem

From: John Melton - Sun UK - ENS <John.Melton@UK.Sun.COM>
Date: Fri, 28 May 1999 15:50:16 +0100 (BST)
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-23097-1999.05.28-09.56.04--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> John,
>
>
> Can we get authorization to place it on the TAPR DSP FTP site as well?
>
> 73,
> Tim

I think I managed to upload it ok,  and have sent an email off to softlib@tapr.org,  so it
should be visible sometime soon.

-- John Melton  n6lyt/g0orx

```
   ((
  (|~~|
   `--'
   JAVA
```

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 107. [dsp] Re: 38k4 modem

From: "Stacey E. Mills, M.D." <w4sm@cstone.net>
Date: Fri, 28 May 1999 10:48:45 -0400
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-23098-1999.05.28-09.59.28--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 09:59 PM 5/26/1999 -0500, you wrote:

>I was wondering:  What type of modem are the satellite operators themselves
>using?  Do they have a design that they recommend for sat users?

I believe that Chris Jackson uses a modified G3RUH "hardware" modem,
clocked up to 38k4 on the receive side.  Peter Guelzow uses a Symek modem,
TNC31S, which allows 9k6 uplink and 38k4 downlink.

--
 _____________________________________________________________
 Stacey E. Mills, W4SM    WWW:  http://www.cstone.net/~w4sm/ham1.html
   Charlottesville, VA    PGP key:      http://www.cstone.net/~w4sm/key
 _____________________________________________________________

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 108. [dsp] Re: 38k4 modem

From: Douglas Braun <doug.braun@intel.com>
Date: Fri, 28 May 1999 10:02:46 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-23103-1999.05.28-10.08.55--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 10:48 AM 5/28/99 -0400, you wrote:

Thanks!

Naturally, the follup question is:  What sort of receiver bandwidth is needed?
Can a "normal" FM receiver work if a different filter is fitted, or will
the other IF filters and/or the discriminator also need modifying?

Doug
N1OWU

>At 09:59 PM 5/26/1999 -0500, you wrote:
>
>>I was wondering:  What type of modem are the satellite operators themselves
>>using?  Do they have a design that they recommend for sat users?
>
>I believe that Chris Jackson uses a modified G3RUH "hardware" modem,
>clocked up to 38k4 on the receive side.  Peter Guelzow uses a Symek modem,
>TNC31S, which allows 9k6 uplink and 38k4 downlink.

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 109. [dsp] 38k4 modem

From: Eduardo Jacob <jtpjatae@bicc00.bi.ehu.es>
Date: Fri, 28 May 1999 17:04:07 +0200
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-23104-1999.05.28-10.13.09--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I have been speaking with Borja, the author of it and there is a ftp, where he will put newer versions.
He told me that if anybody is willing to complete the todo points that would be fine.

ftp://bips.bi.ehu.es/pub/g38kruh/

        Regards

        Eduardo/EA2BAJ

PD: I think it's always better not to mirror, if it is not done automatically, as it conducts to have
different versions floating around.

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 110. [dsp] Re: 38k4 modem

From: John Melton - Sun UK - ENS <John.Melton@UK.Sun.COM>
Date: Fri, 28 May 1999 16:15:48 +0100 (BST)
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-23105-1999.05.28-10.21.32--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> 
> Thanks!
> 
> Naturally, the follup question is:  What sort of receiver bandwidth is needed?
> Can a "normal" FM receiver work if a different filter is fitted, or will
> the other IF filters and/or the discriminator also need modifying?
> 
> Doug
> N1OWU
> 

For TMSat Surrey were using a modified Wood & Douglas receiver along with an expensive crystal filter providing 60KHz bandwidth.  I don't know if they are using the same for UoSAT-12.

There is a paper on the Surrey web site that has more info (http://www.ee.surrey.ac.uk/CSER/UOSAT/amateur/38k4_receiver_paper.html).

I have been experimenting with an Icom PCR-1000 using the 50KHz filter that is built in,  and adjusting for doppler.

-- John Melton  n6lyt/g0orx

```
   ((
  (|~~|
   `--'
   JAVA
```

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 111. [dsp] Re: 38k4 modem

From: Johan Forrer <forrerj@peak.org>
Date: Fri, 28 May 1999 08:36:34 -0700 (PDT)
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-23109-1999.05.28-10.41.12--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi All,

I received an excellent overview of the work that the Spanish team did on reworking the original Alef Null G3RUH modem. I think it has a good chance of working given good SNR, but as Borja said, there still need work to be done -- if folks will accept that this is work in progress, it is OK to start using what they have. Give them a chance to complete the missing parts that will make some worthy performance improvements.

Also note that the code is parametrized; you can specify different TX and RX rates! Just set the required rates, and reassemble the code.

For those that are not familiar with how all this works; there as some tricks done using fractional decimation off the 48KSPS sample clock in order to get 2 sample points per wave at 38400. Then a technique described by Mueller and Muller (see the OH2LNS modem docs, or the Alef Null documentation), sequences of bits are analysed to determine the current bit value, also to keep clock sync.
Actually, it is very much based on tracking zero crossings of the waveform. Crude, but it works, given reasonable SNR.

The 48KSPS sample rate unfortunately constrains the input signal and compromises performance --- nothing can be done about that as it is at the CODEC's upper limit, and affects the RC rolloff constants that may be implemented. Also perhaps getting closer to what a 40MHz EVM will handle in reality.

Johan, KC7WW

PS. Eduardo, it would be appreciated if you could keep us
updated of future code releases. Thanks much!


On Fri, 28 May 1999, Eduardo Jacob wrote:

>       I have been speaking with Borja, the author of it and there is a ftp, where he will put newer versions. He told me that if anybody is willing to complete the todo points that would be fine.
>
> ftp://bips.bi.ehu.es/pub/g38kruh/
>
>       Regards
>
>       Eduardo/EA2BAJ
>
> PD: I think it's always better not to mirror, if it is not done automatically, as it conducts to have different versions floating around.
>
> --


---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 112. [dsp] Re: 38k4 modem

From: Eduardo Jacob <jtpjatae@bicc00.bi.ehu.es>
Date: Fri, 28 May 1999 18:57:15 +0200
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-23136-1999.05.28-12.08.52--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>Give them a chance to complete
>the missing parts that will make some worthy performance
>improvements.

        As far as I can say, I think that if somebody works on it now, the results will be available sooner. Borja is (as me) working hard on his PhD Thesis that has nothing (as mine) to do with HAM ;-)

>PS. Eduardo, it would be appreciated if you could keep us
>updated of future code releases. Thanks much!

        Consider it done.

        Eduardo

---
Eduardo EA2BAJ
DSP and HAM:   http://det.bi.ehu.es/~jtpjatae/ham.html
VHF PACKET: EA2BAJ @ EA2URV
PGP Key avlb: Send email w/subject: PGPKEY
fingerprint : D8 FA 54 49 F7 40 BA AA 09 1A 73 40 A4 26 ED BD

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 113. [dsp] EVMRI Power Question

From: John Ackermann <jra@febo.com>
Date: Sat, 29 May 1999 12:51:48 -0400
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-23339-1999.05.29-11.57.55--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The EVMRI and EVM56002 are rated for 7-9 volts AC or DC input.  In looking at the schematic, it seems like 12 volts should be OK, since the power supply is a plain old 7805 regulator.

I'm always trying to simplify my shack wiring, and would like to avoid another wall wart.  I wonder if anyone has determined whether using a 12 or 13.8 volt supply is safe.

John N8UR
jra@febo.com

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 114. [dsp] Re: EVMRI Power Question

From: Charles Brain <chbrain@dircon.co.uk>
Date: Sat, 29 May 1999 18:05:14 +0100
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-23340-1999.05.29-12.14.25--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

John Ackermann wrote:
> I'm always trying to simplify my shack wiring, and would like to avoid
> another wall wart.  I wonder if anyone has determined whether using a
> 12 or 13.8 volt supply is safe.
>

I run all my EVMs on 13.8 volts, however I had to move the 7805 off the board
and use the case as a heatsink. The EVM uses about 1/2 an amp I seem to remember
so the heatsink has to dissipate 4.4watts. I believe those heatsinks rise
by 21 deg C per watt. Ouch!

- Charles

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 115. [dsp] Re: EVMRI Power Question

From: David Borden <dborden@laser.net>
Date: Sat, 29 May 1999 15:25:01 -0400
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-23356-1999.05.29-14.29.34--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

John,
  It gets very hot when you do that and the heat sink on the regulator is
not that great.  It is pretty forgiving as to polarity and voltage, but 12
is a bit much.  Any shack without 15 wall warts on a big long power strip
is not designed correctly....david,k8mmo

At 12:51 5/29/99 -0400, you wrote:
>The EVMRI and EVM56002 are rated for 7-9 volts AC or DC input.  In
>looking at the schematic, it seems like 12 volts should be OK, since
>the power supply is a plain old 7805 regulator.
>
>I'm always trying to simplify my shack wiring, and would like to avoid
>another wall wart.  I wonder if anyone has determined whether using a
>12 or 13.8 volt supply is safe.
>
>John N8UR
>jra@febo.com
>
>
>
>---
>You are currently subscribed to dsp as: DBORDEN@LASER.NET
>To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
>


---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 116. [dsp] Re: 38k4 modem

From: Eduardo Jacob <edu@kender.es>
Date: Mon, 31 May 1999 00:05:19 +0200
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-23455-1999.05.30-17.11.25--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Speaking about units that do FSK in 9k6/38k4, the SCS PTC-II actually seems to do it, alltough the
problem is that at present (and at least for now, they are not very receptive. Hint:  ask them for
it...) they don't offer KISS on the AFSK and FSK ports. As long as I understand, it's not possible to do
 PACSATS without a KISS modem with Wisp.

        Eduardo

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 117. [dsp] Re: EVMRI Power Question

From: "Thomas M. Alldread" <tma@mail.island.net>
Date: Sun, 30 May 1999 22:22:26 -0700
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-23494-1999.05.31-00.28.58--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Greetings  John N8UR:
>
> The EVMRI and EVM56002 are rated for 7-9 volts AC or DC input.  In
> looking at the schematic, it seems like 12 volts should be OK, since
> the power supply is a plain old 7805 regulator.
>

        To permit the powering of my EVM with my station 13.6 Volt supply I mounted a 7808 pre-regulator to the case of my home brew interface. It provides a clean 8 Volt supply to the EVM which is right in the middle of the 7-9 Volt specification. I also installed a second 7805 for powering the front panel LEDs as an alternative to drawing additional current through the EVM regulator.

73 and Enjoy!
Tom, VE7TMA

tma@island.net

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 118. [dsp] Re: dsp digest: May 29, 1999

From: John Coppens <jcoppens@linux2.uccor.edu.ar>
Date: Mon, 31 May 1999 2:31:39 -0300
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-23498-1999.05.31-00.37.52--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi.

The problem isn't the 7805 itself, which supports 35+ volts, but the dissipation which increases with the input/output difference. At 12V the heat would be too much I suspect.

John

At 99/05/30, you wrote:
>
>TAPR DSP Special Interest Group Digest for Saturday, May 29, 1999.
>
>1. EVMRI Power Question
>2. Re: EVMRI Power Question
>3. Re: EVMRI Power Question
>
>----------
>
>Subject: EVMRI Power Question
>From: John Ackermann <jra@febo.com>
>Date: Sat, 29 May 1999 12:51:48 -0400
>X-Message-Number: 1
>
>The EVMRI and EVM56002 are rated for 7-9 volts AC or DC input. In
>looking at the schematic, it seems like 12 volts should be OK, since
>the power supply is a plain old 7805 regulator.
>
>I'm always trying to simplify my shack wiring, and would like to avoid
>another wall wart.  I wonder if anyone has determined whether using a
>12 or 13.8 volt supply is safe.
>

>John N8UR
>jra@febo.com
>
>
>
>----------------------------------------------------------------
------
>
>Subject: Re: EVMRI Power Question
>From: Charles Brain <chbrain@dircon.co.uk>
>Date: Sat, 29 May 1999 18:05:14 +0100
>X-Message-Number: 2
>
>
>
>John Ackermann wrote:
>> I'm always trying to simplify my shack wiring, and would like
to avoid
>> another wall wart.  I wonder if anyone has determined whether
using a
>> 12 or 13.8 volt supply is safe.
>>
>
>I run all my EVMs on 13.8 volts, however I had to move the 7805
off the board
>and use the case as a heatsink. The EVM uses about 1/2 an amp I
seem to remember
>so the heatsink has to dissipate 4.4watts. I believe those
heatsinks rise
>by 21 deg C per watt. Ouch!
>
>- Charles
>
>----------------------------------------------------------------
------
>
>Subject: Re: EVMRI Power Question
>From: David Borden <dborden@laser.net>
>Date: Sat, 29 May 1999 15:25:01 -0400
>X-Message-Number: 3
>
>John,
>  It gets very hot when you do that and the heat sink on the
regulator is
>not that great.  It is pretty forgiving as to polarity and
voltage, but 12
>is a bit much.  Any shack without 15 wall warts on a big long
power strip
>is not designed correctly....david,k8mmo
>
>At 12:51 5/29/99 -0400, you wrote:
>>The EVMRI and EVM56002 are rated for 7-9 volts AC or DC input.
In
>>looking at the schematic, it seems like 12 volts should be OK,
since
>>the power supply is a plain old 7805 regulator.
>>
>>I'm always trying to simplify my shack wiring, and would like
to avoid
>>another wall wart.  I wonder if anyone has determined whether
using a
>>12 or 13.8 volt supply is safe.
>>
>>John N8UR
>>jra@febo.com
>>
>>
>>
>>---
>>You are currently subscribed to dsp as: DBORDEN@LASER.NET
>>To unsubscribe send a blank email to leave-dsp-
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>
>
>
>
>---
>

>END OF DIGEST
>
>---
>You are currently subscribed to dsp as: JCOPPENS@SATLINK.COM
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3072M@lists.tapr.org
>
>
---
John Coppens
Schools for Electrical/Electronics and Systems Engineering
Faculty of Engineering
Catholic University at C□rdoba, Argentina  hamradio: lw3haz/on6jc
mailto:jcoppens@linux2.uccor.edu.ar  http://www.uccor.edu.ar/~jcoppens
---


---
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To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 119. [dsp] Re: EVMRI Power Question

From: "Joe S. Borovetz" <wa5vms@tapr.org>
Date: Mon, 31 May 1999 07:35:37 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-23529-1999.05.31-07.22.47--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

John

I have done the same thing. Works fine. I agree with you about not needing
any extra transformers hanging around.

Joe


At 10:22 PM 5/30/99 -0700, you wrote:
>
>
>Greetings  John N8UR:
>>
>> The EVMRI and EVM56002 are rated for 7-9 volts AC or DC input.  In
>> looking at the schematic, it seems like 12 volts should be OK, since
>> the power supply is a plain old 7805 regulator.
>>
>
>       To permit the powering of my EVM with my station 13.6 Volt supply I
>mounted a 7808 pre-regulator to the case of my home brew interface. It
>provides a clean 8 Volt supply to the EVM which is right in the middle
>of the 7-9 Volt specification. I also installed a second 7805 for
>powering the front panel LEDs as an alternative to drawing additional
>current through the EVM regulator.
>
>73 and Enjoy!
>Tom, VE7TMA
>
>tma@island.net
>
>---
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>


---
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## 120. [dsp] Re: 38k4 modem

From: Eduardo Jacob <jtpjatae@bicc00.bi.ehu.es>
Date: Mon, 31 May 1999 14:21:11 +0200
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-23530-1999.05.31-07.27.12--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>PS. Eduardo, it would be appreciated if you could keep us
>updated of future code releases. Thanks much!

Borja has put the last version of the modem in

ftp://bips.bi.ehu.es/pub/g38kruh/

I think everybody should try to sinchronize to it, as it is the last version they have been working on. This way we eliminate the problems of different versions.

Eduardo/EA2BAJ

---

Eduardo EA2BAJ
DSP and HAM: http://det.bi.ehu.es/~jtpjatae/ham.html
VHF PACKET: EA2BAJ @ EA2URV
PGP Key avlb: Send email w/subject: PGPKEY
fingerprint : D8 FA 54 49 F7 40 BA AA 09 1A 73 40 A4 26 ED BD

---

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## 121. [dsp] Re: EVMRI Power Question

From: bsmeds@esoc.esa.de
Date: Mon, 31 May 1999 16:29:19 +0100
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-23557-1999.05.31-09.37.23--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Do not forget that the EVM 56002 has a diode bridge internally to allow an AC supply.
If you feed it from your common 12 V supply your EVM "ground" will be lifted by the diode drop ( 0.6 Volt)
You may have to modify the EVM and short the diode to avoid problems when using a common 12V supply.
Boris DJ0EX

"Joe S. Borovetz" <wa5vms@tapr.org> on 99-05-31 13:35:37

Please respond to "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>

To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
cc: (bcc: Boris Smeds/esoc/ESA)
Subject: [dsp] Re: EVMRI Power Question

John

I have done the same thing. Works fine. I agree with you about not needing any extra transformers hanging around.

Joe

At 10:22 PM 5/30/99 -0700, you wrote:
>
>
>Greetings John N8UR:
>>
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>> looking at the schematic, it seems like 12 volts should be OK, since
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> To permit the powering of my EVM with my station 13.6 Volt supply I
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>of the 7-9 Volt specification. I also installed a second 7805 for
>powering the front panel LEDs as an alternative to drawing additional
>current through the EVM regulator.
>
>73 and Enjoy!
>Tom, VE7TMA
>
>tma@island.net
>
>---

---
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## 122. [dsp] 1999 TAPR Digital Forum @ HamVention

From: Greg Jones <wd5ivd@tapr.org>
Date: Mon, 31 May 1999 13:14:11 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-23585-1999.05.31-13.21.35--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The audio from the TAPR Digital Forum held during the 1999 Dayton
Hamvention is now available for listening.  If you couldn't make the forum
this year, you can catch up on all the talks.

http://www.tapr.org/tapr/html/Fdayton99.html


Welcome to the TAPR Digital Forum
              John Ackermann, AG9V, Forum Moderator

TAPR Kit/Project/Organizational Update
              Greg Jones, WD5IVD (www)

Linux AX.25
              John Ackermann, N8UR

PIC-E Developments
              Steve Bible, N7HPR (www) and John Hanson, W2FS

GPS Projects
              Steve Bible, N7HPR (www)

Compact Flash Adapter
              John Koster, W9DDD

APRS Update
              Steve Dimse, K4HG and Stan Horzepa, WA1LOU

TAPR 900Mhz FHSS Radio Project
              Tom McDermott, N5EG


in addition Dave Pedersen, N7BHC, talk on "A Little Technology Goes a Long
Way" during the TAPR PacketBASH on Friday is available.

Cheers - Greg Jones, WD5IVD


-------------------------------------------------------------------------
Tucson Amateur Packet Radio
8987-309 E Tanque Verde Rd #337 * Tucson, Az * 85749-9399
-------------------------------------------------------------------------
e-mail: tapr@tapr.org       web: <http://www.tapr.org/>
ftp:    ftp.tapr.org
phone:  940-383-0000        fax: 940-565-2544
-------------------------------------------------------------------------

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# June 1999

Original source file: dsp.9906
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/dspsig/mail_archive/dsp.9906

## 1. [dsp] Re: EVMRI Power Question

From: John Ackermann <jra@febo.com>
Date: Wed, 02 Jun 1999 21:11:16 -0400
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-23933-1999.06.02-20.17.18--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Thanks for all the comments on the power supply question.  I'm going to
try to stand the regulator up off the board, and build a 3-way heat
sink (two standard heatsinks back to back, with another one smashed
flat in the middle of the sandwich) to improve the heat dissipation,
and see what happens.

John

> Do not forget that the EVM 56002 has a diode bridge internally to allow an
> AC supply.
> If you feed it from your common 12 V supply your EVM "ground" will be
> lifted by the diode drop ( 0.6 Volt)
> You may have to modify the EVM and short the diode to avoid problems when
> using a common 12V supply.
> Boris DJ0EX
>
>
>
>
> "Joe S. Borovetz" <wa5vms@tapr.org> on 99-05-31 13:35:37
>
> Please respond to "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
>
> To:   "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
> cc:    (bcc: Boris Smeds/esoc/ESA)
> Subject:  [dsp] Re: EVMRI Power Question
>
>
>
>
> John
>
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> any extra transformers hanging around.
>
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>
>
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> >
> >
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> >current through the EVM regulator.
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> >73 and Enjoy!
> >Tom, VE7TMA
> >
> >tma@island.net
> >
> >---
>
>
>
>
>

> ---
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## 2. [dsp] Scope/Analyzer programs for EVM?

From: John Ackermann <jra@febo.com>
Date: Sat, 05 Jun 1999 09:09:54 -0400
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-24409-1999.06.05-08.16.01--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Maybe I'm just dense, but in looking through the dsp file area on TAPR
I don't see an oscilloscope or spectrum analyzer application for the
EVM.  If such exist, I'd appreciate a pointer.

Thanks,

John N8UR
jra@febo.com

---
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To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 3. [dsp] Re: Scope/Analyzer programs for EVM?

From: Douglas Braun <doug.braun@intel.com>
Date: Sat, 05 Jun 1999 10:06:56 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-24420-1999.06.05-10.13.05--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

In n1owu_1.zip (If i remember the name correctly), you
will find a DOS program called SPY.EXE, which does a scope and
FFT display.  There are also the companion EVM programs
scope1.asm and scope2.asm.  The (Borland C) source code for scope.exe
is also there.  This program was originally written by the now-legendary
AlefNull people, and I added a few enhancements (and possibly dehancements).

Write if you have any questions on using it.

Doug
N1OWU

At 09:09 AM 6/5/99 -0400, you wrote:
>Maybe I'm just dense, but in looking through the dsp file area on TAPR
>I don't see an oscilloscope or spectrum analyzer application for the
>EVM.  If such exist, I'd appreciate a pointer.
>
>Thanks,
>
>John N8UR
>jra@febo.com
>
>
>
>---
>You are currently subscribed to dsp as: doug.braun@intel.com
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## 4. [dsp] Re: Scope/Analyzer programs for EVM?

From: John Ackermann <jra@febo.com>
Date: Sat, 05 Jun 1999 11:09:27 -0400
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-24421-1999.06.05-10.15.36--lyris.dsp#tapr.org@lists.tapr.org>

Rendered body type: text/plain

Thanks, Doug!

John

> In n1owu_1.zip (If i remember the name correctly), you
> will find a DOS program called SPY.EXE, which does a scope and
> FFT display.  There are also the companion EVM programs
> scope1.asm and scope2.asm.  The (Borland C) source code for scope.exe
> is also there.  This program was originally written by the now-legendary
> AlefNull people, and I added a few enhancements (and possibly dehancements).
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>
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>
>
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> >
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> >
> >John N8UR
> >jra@febo.com
> >
> >
> >
> >---
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>
> ---
> You are currently subscribed to dsp as: jra@febo.com
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To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 5. [dsp] Re: Scope/Analyzer programs for EVM?

From: Douglas Braun <doug.braun@intel.com>
Date: Sat, 05 Jun 1999 10:09:46 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-24422-1999.06.05-10.15.59--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

There is also an old package that does a waterfall display for
both CW and SSB bandwidths, as well as a spectral-subtraction
noise reducer.  I forget the file name for the whole package,
but the .asm files are fft-cw.asm, fft-ssb.asm, and fft-cut.asm.
There are matching DOS programs, but no source for them.
My own software collectoin is not accessable at the moment; mail
me if you have no luck finding them.

Doug
N1OWU

At 09:09 AM 6/5/99 -0400, you wrote:
>Maybe I'm just dense, but in looking through the dsp file area on TAPR
>I don't see an oscilloscope or spectrum analyzer application for the
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## 6. [dsp] Re: Scope/Analyzer programs for EVM?

From: TBaggett@AustinTX.net (Tim Baggett)
Date: Sat, 5 Jun 1999 11:34:56 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-24437-1999.06.05-11.24.03--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>Maybe I'm just dense, but in looking through the dsp file area on TAPR
>I don't see an oscilloscope or spectrum analyzer application for the
>EVM.  If such exist, I'd appreciate a pointer.

Hi John,

Also, there is a spectrum analyzer application that is done by Motorola.
Look for the 56002EVM distribution disk (evm28.exe on the TAPR site) for a
file spec.zip. This programs sends the spectrum data to the PC via a
parallel port cable. The PC display program compiled using Borland C.

73,
Tim, AA5DF

---
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## 7. [dsp] Re: Scope/Analyzer programs for EVM?

From: John Ackermann <jra@febo.com>
Date: Sat, 05 Jun 1999 12:29:20 -0400
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-24440-1999.06.05-11.35.22--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Tim --

Thanks for the tip.  I saw some references to the Motorola program, but
the parallel output (although probably nice in terms of I/O speed) adds
a rat's nest complexity I'd rather avoid (I'm using the EVMRI
enclosure).

I shouldn't say this, because I'm in no position to code it myself, but
I think a windows based scope/analyzer package to interface with the
EVMRI would be way cool...

John

>
>
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> You are currently subscribed to dsp as: jra@febo.com
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---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 8. [dsp] Re: Scope/Analyzer programs for EVM?

From: Douglas Braun <doug.braun@intel.com>
Date: Sat, 05 Jun 1999 12:17:13 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-24442-1999.06.05-12.23.39--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Often with Win95, a character gets dropped from the serial port, and the SPY
program gets out of sync.  Then it sits for several seconds waiting for a timeout.
Once, I never had this problem, but then one day it started happening to me.
Try DOS mode.  Note that for several functions, a uppercase letter turns them on, and
a lowercase letter turns them off.

Doug


At 11:53 AM 6/5/99 -0400, John Ackermann wrote:
>Hi Doug --
>
>Well, I got bios2 and scope1 loaded into the EVM, and spy is running.
>There's a bit of a "now what" here since I don't know what to expect.
>
>First question -- I'm running in a DOS window under Win95.  Is that a
>mistake?
>
>Second question -- none of the key commands seem to do anything other
>than Q or ESC, which do exit the program.
>
>I start with "spy -p 1" to tell it I'm using com 1.  After many
>seconds, and some random keypresses, I do get a display -- once in
>scope mode, on another run in FFT.  However, hitting the various C, F,
>etc. keys doesn't result in any obvious screen activity, and in
>particular the letters don't toggle case.
>
>One basic question, I guess -- how long should it take to dump a screen
>with this setup?  I'm running a Pentium II 200 under Win95.  I don't
>know if I should be seeing near real-time updates, or if they are many
>many seconds apart.
>
>Thanks for any hints you can give this newbie...


---
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## 9. [dsp] SeaPac HF Digital feedback

From: forrerj@peak.org (Johan Forrer)
Date: Sat, 05 Jun 1999 20:30:36 -0800
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-24515-1999.06.05-22.39.46--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi all,

For those interested, a brief follow up after my talk this morning:

There was seating room for some 65 people. That was filled and
we had folks sitting on the floor as well as lining up the walls.
The organizer tells me they counted 85 souls, so I guess there
remains stong interest in HF digital and especially what promise
these future modes holds.

On the question of how many are active on PSK31, I counted some
10-15 hands. On the question of how many are interested in
becoming active on PSK31, there were some 5-10. On the question of who
have ever heard or seen anything about the other modes besides
PSK31, there probably was one or two, but nobody indicated such.

I think the message is very clear --- we, as experimentors with these
future mode are doing a good job at developing these future modes,
but sadly to say, we are really failing in getting the message out.
We need more people promoting this work, also we need to start publishing
stuff in the main stream publications like QST. The folks at ARRL just
simply has to take notice and help in this regard and get way from the
notion that "they don't want more technical stuff" for QST
(this is an issue that I'll go in some other time.)

There were some good questions raised about where these new modes
are leading with respect to band planning etc. For example, should a wide
band digital signal be down in the narrow band allocations competing with
CW and other narrow-band modes? What will the SSB folks feel if these
signals shows up in "their" allocations? Deep, tricky stuff, but it is going to
have an impact very soon and discussions about it should start
sooner the better.

There was a good amount of audience feedback on HTHELL -- for
some reason it hit a nerve. I also really enjoyed showing off Charles'
"digital voice over HF" project and the sound clips that Charles
provided was very effective in supporting the slide materials.
I provided a list of resources on the web, so don't be surprized
if those become more famous/popular than they already are.

In general, I think the materials went over well -- it was a very receptive
audience and I think they walked away knowing that HF digital is
far from dead.

73,

Johan, KC7WW

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 10. [dsp] Re: Scope/Analyzer programs for EVM?

From: TBaggett@AustinTX.net (Tim Baggett)
Date: Sat, 5 Jun 1999 23:38:13 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-24519-1999.06.05-23.26.51--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi John,

>Thanks for the tip.  I saw some references to the Motorola program, but
>the parallel output (although probably nice in terms of I/O speed) adds
>a rat's nest complexity I'd rather avoid (I'm using the EVMRI
>enclosure).

I definatly agree. In fact, there have been many occasions I've helped folks
in getting the Motorola spec.zip working. I believe there are three parallel
port types: SCP, ECP, and EPP. I believe the spec.zip package only works
with EPP. One guy did some mods to the program so it would work for his
computer, and I think I incorporated these changes in the evm28.exe release.
These mods may have been for ECP ports. In any event, just the fact that
there were various parallel ports, and this wasn't mentioned in the (scanty)
documentation added to the rat's nest complexity.

I think the demo shows two things rather well. How to implement the spec-an
in DSP, and also how to achieve a high speed parallel port interface. But, I
do think fftscope from the alef null group is more practical.

>I shouldn't say this, because I'm in no position to code it myself, but
>I think a windows based scope/analyzer package to interface with the
>EVMRI would be way cool...

The slightest thought of coding for Windows makes me shudder! hihi!

73,
Tim

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 11. [dsp] Re: Scope/Analyzer programs for EVM?

From: Eduardo Jacob <edu@kender.es>
Date: Sun, 06 Jun 1999 10:20:40 +0200
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>

Message-ID: <LYR3532-24560-1999.06.06-03.26.56--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 09:09 05/06/99 -0400, you wrote:
>Maybe I'm just dense, but in looking through the dsp file area on TAPR
>I don't see an oscilloscope or spectrum analyzer application for the
>EVM.  If such exist, I'd appreciate a pointer.

        Yes, there is a Nice DOS application for the EVM crafted by G3PLX named EVMSPEC that you can find here:

ftp://det.bi.ehu.es/pub/ham/evm/Fuentes/evmspec.zip

        Eduardo/EA2BAJ

---
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## 12. [dsp] Re: Scope/Analyzer programs for EVM?

From: John Ackermann <jra@febo.com>
Date: Sun, 06 Jun 1999 06:59:44 -0400
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-24566-1999.06.06-06.05.53--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> I think the demo shows two things rather well. How to implement the spec-an
> in DSP, and also how to achieve a high speed parallel port interface. But, I
> do think fftscope from the alef null group is more practical.

Hmmm... "fftscope"... I haven't run across that one yet.  I'll dig around for it.  At Doug Braun's suggestion, I've been using scope1 and spy, which is OK but not my idea of a really usable program.

73,
John

---
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## 13. [dsp] Re: Scope/Analyzer programs for EVM?

From: John Ackermann <jra@febo.com>
Date: Sun, 06 Jun 1999 07:01:50 -0400
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-24567-1999.06.06-06.07.56--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Thanks!

John
> At 09:09 05/06/99 -0400, you wrote:
> >Maybe I'm just dense, but in looking through the dsp file area on TAPR
> >I don't see an oscilloscope or spectrum analyzer application for the
> >EVM.  If such exist, I'd appreciate a pointer.
>
>       Yes, there is a Nice DOS application for the EVM crafted by G3PLX named EVMSPEC that you can find here:
>
> ftp://det.bi.ehu.es/pub/ham/evm/Fuentes/evmspec.zip
>
>       Eduardo/EA2BAJ
>
> ---
> You are currently subscribed to dsp as: jra@febo.com
> To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 14. [dsp] matlab alternative?

From: "Ken Johnson" <vk7krj@southcom.com.au>
Date: Sun, 6 Jun 1999 21:07:53 +1000
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-24568-1999.06.06-06.18.03--lyris.dsp#tapr.org@lists.tapr.org>

Rendered body type: text/plain

Hi, greetings from a novice dsp'er. I am currently putting together a
general-coverage variation on the R2 receiver using motorlola's dsp56002evm
for the audio side of things and would like to know if there is a
freeware/shareware alternative to matlab and what books are best for a
mathematically challenged (well, its rather a long time since I was in
school- even technicians school was rather more years ago than I want to
remember!) dsp novice? As things of this nature (hardware and books) are
hard to get here in sleepy hollow (Hobart, Australia) resources on the net
would be good.
Thanks in advance for any information.

Cheers, Ken,vk7krj
vk7krj@southcom.com.au

---
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To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 15. [dsp] Re: Scope/Analyzer programs for EVM?

From: Douglas Braun <doug.braun@intel.com>
Date: Sun, 06 Jun 1999 07:45:56 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-24579-1999.06.06-07.52.11--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 06:59 AM 6/6/99 -0400, you wrote:

Note that the main purpose for SPY.EXE is debugging EVM programs, in
conjunction with the "Spy" macros in various programs.

It works as a general-purpose scope program, but the display and command set
is a bit primitive.  If someone were to write a nicer one, it would
be nice if it use the same communications protocol, so it could also debug
EVM programs the same way.  (Or instead, design a better serial protocol
what does not hang up on Win95, and write new Spy macros for it.)

Doug
N1OWU

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 16. [dsp] Re: matlab alternative?

From: forrerj@peak.org (Johan Forrer)
Date: Sun, 06 Jun 1999 08:18:58 -0800
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-24603-1999.06.06-10.27.36--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Ken,

I would recommend trying Octave.

There is a Windows 95/NT version -- I have used the Linux
version extensively. When used with the "--native"
command-line switch, you can use any existing
Matlab ".M" files. I often use the libraries that comes with the limited
student version of Matlab for most all of the Matlab work that I do.

Octave is housed at the University of Wisconsin, and has a very
active discussion/development list, mostly frequented by folks
from the large national laboratories, NASA etc., and it gets
rave reviews. I really like it.

As for some literature to go with it -- there I would really
recommend Stearns and David's book: "Signal Processing Alorithms
in Matlab", pub. Prentice Hall, ISBN 0-13-045154-1.
There you will find good treatment of things like Hilbert transforms,
FIR/IIR filters, and other good stuff that is commonly used in DSP
receivers. It treats the math without too much pain and has the
corresponding Matlab code on disk.

I would also recommend Frerkings book to complement your
receiver project ideas, but I also have seen some rather nice books
appear recently by Dr. Rhode which will give you further ideas

used in modern DSP equipment, such as AGC, speech compression,
and ways to use DDS with low phase noise. Sorry I do not have
the full references available right now, but a search on the web will
produce those.

Hope that helps.

Johan, KC7WW


>Hi, greetings from a novice dsp'er. I am currently putting together a
>general-coverage variation on the R2 receiver using motorlola's dsp56002evm
>for the audio side of things and would like to know if there is a
>freeware/shareware alternative to matlab and what books are best for a
>mathematically challenged (well, its rather a long time since I was in
>school- even technicians school was rather more years ago than I want to
>remember!) dsp novice? As things of this nature (hardware and books) are
>hard to get here in sleepy hollow (Hobart, Australia) resources on the net
>would be good.
>Thanks in advance for any information.
>
>Cheers, Ken,vk7krj
>vk7krj@southcom.com.au
>
>
>---
>You are currently subscribed to dsp as: FORRERJ@PEAK.ORG
>To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
>
>
>


---
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## 17. [dsp] Re: Scope/Analyzer programs for EVM?

From: forrerj@peak.org (Johan Forrer)
Date: Sun, 06 Jun 1999 08:19:00 -0800
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-24604-1999.06.06-10.27.57--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

John,

Yes, none of the options are really sexy.

Here your chance for fame ... how about taking it on as a
project and do the rest of a big favor?

73,

Johan


---
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## 18. [dsp] Analyzer

From: Mike <kc4qn@mindspring.com>
Date: Sun, 06 Jun 1999 13:17:49 -0400
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-24612-1999.06.06-12.18.00--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

There was some analyzer software written for the 56000 evm that used a
scope for the spectrum display. I don't know if anyone has ported it to the
56002 evm but would like a copy if they did. With a flash prom this would
eliminate the need for a computer completely and would be very handy for
service work. It was on the DR Bulbs bbs and last time I checked was still
available on the net. I have a copy somewhere if you need it.

Mike
KC4QN

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org

To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 19. [dsp] 38k4 modem yet

From: Lorenzo Midulla <midulla@provincia.parma.it>
Date: Mon, 07 Jun 1999 18:59:32 +0200
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-24810-1999.06.07-12.11.51--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I have two questions on 38k4 modem.

1) g38kruh.asm uses square root raised cosine filters with roll-off=0.2.
Are the  filters used on digital sats (TO-31, UO-12) really matched to
these (the same roll-off)?

2) Why not to use multilevel PAM instead of two levels PAM?
For example 9.6 Kbaud with 16 levels yields 38.4 Kbit/s. That is right: by
increasing the number of levels with the same C/N the BER becomes higher
but I think it is easier to increase the tx power than the rx bandwith (at
least on terrestrial links)!

Regards,

Lorenzo Midulla IW4EBN
Parma, ITALY

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 20. [dsp] Re: 38k4 modem yet

From: Itziar Martinez <itziar@bips00.bi.ehu.es>
Date: Wed, 9 Jun 1999 07:27:11 +0200 (CET)
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-25180-1999.06.09-00.35.34--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I am a member of the team promoted by Jabi Agirre(EA2ARU) that developed
(and is still working on improving) the 38k4 modem. I would try to answer
your questions. If something is not clear, do not hesitate and ask again.

On Mon, 7 Jun 1999, Lorenzo Midulla wrote:

> I have two questions on 38k4 modem.
>
> 1) g38kruh.asm uses square root raised cosine filters with roll-off=0.2.
> Are the  filters used on digital sats (TO-31, UO-12) really matched to
> these (the same roll-off)?

        The roll-off of the 38k4 is not the one of the hardware (0.3)
because we are limited by the bandwidth of the codec. The 9600bps modem
uses a filter with 0.3, because the bandwidth is over 6kHz, far away fromo
the 24KHz theorical limit of the codec.
At 38k4  there is not enough bandwidth, so we have to reduce the roll-off
factor to 0.2. With this filter signals are under 23kHz. The analog
anti-image filter distorts a little bit the higher frequencies, but we did
not want to reduce more the roll-off for several reasons:it would need
longer FIR filters, the dinamic range of the output signasl would increase
and specially vecause it would be too different form the overclocked G3RUH
analog modem.

        So this digital modem is not actually adapted to the signals used
on the analog one. We have make some probes and observed that the BER
increased a little bit, but that can be reduced improving the SNR.

>
> 2) Why not to use multilevel PAM instead of two levels PAM?
> For example 9.6 Kbaud with 16 levels yields 38.4 Kbit/s. That is right: by
> increasing the number of levels with the same C/N the BER becomes higher
> but I think it is easier to increase the tx power than the rx bandwith (at
> least on terrestrial links)!

        We completely agree with you, and think we could better use an
efficient modulation like QPSK or so.
         But we were not designing a new model of modem, just one
as compatible as possible with the overclocked G3RUH analog modem.

PS: a week ago we actualized the version of the 38k4 modem in our web.
The URL is ftp://bips.bi.ehu.es/pub/g38kruh

---
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## 21. [dsp] Re: matlab alternative?

From: "Ken Johnson" <vk7krj@southcom.com.au>
Date: Wed, 9 Jun 1999 22:50:36 +1000
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-25221-1999.06.09-07.57.13--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Johan, thanks for the reply, my first impression when I saw the readme on
how to install octave on a windows system was to take up another hobby!!
However, I printed it off, downloaded all the recommended files and worked
my way through the installation (and remembered why I hate unix..). Now I
can fire up octave but my unix/octave skills are in dire need of a little
assistance.
If I understand the process correctly, when I run the particular .m file
(cw.m) that was used in the r2 receiver with the 56002evm, it generates the
coefficients needed by the cw.asm file, which I can then assemble to the
.cld file for the 56002. However when I run cw.m, octave gives me numerous
errors- are there libraries I need to include, or command line switches that
are routinely used with octave?

The lines that seem to be causing the problem are thus:-

```
    %  The sample rate....
```

and:-

```
    win = kaiser(s(:,2),8)';
```

The errors are :-

```
    error:    'kaiser' undefined
    error:    evaluating index expression
    error:    evaluating unary operator
    error:    evaluating assignment expression
    error:    evaluating expression
```

The first 4 errors are caused by the 'win=' line, the last error is caused
by the '%' line (I thought the % lines were comments but octave says the
error is on line 1 and that is line 1)
Any assistance would be gratefully received- 6809, 80x86 and pic's I can
handle but all this very new to me.

Cheers, Ken,vk7krj
vk7krj@southcom.com.au

---
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To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 22. [dsp] Re: matlab alternative?

From: Johan Forrer <forrerj@peak.org>
Date: Wed, 9 Jun 1999 08:39:51 -0700 (PDT)
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-25249-1999.06.09-10.45.20--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Ken,

Perhaps we can discuss options offline? E-mail me directly.

Thanks.

Johan

On Wed, 9 Jun 1999, Ken Johnson wrote:

> Hi Johan, thanks for the reply, my first impression when I saw the readme on
> how to install octave on a windows system was to take up another hobby!!
> However, I printed it off, downloaded all the recommended files and worked

> my way through the installation (and remembered why I hate unix..). Now I
> can fire up octave but my unix/octave skills are in dire need of a little
> assistance.
> If I understand the process correctly, when I run the particular .m file
> (cw.m) that was used in the r2 receiver with the 56002evm, it generates the
> coefficients needed by the cw.asm file, which I can then assemble to the
> .cld file for the 56002. However when I run cw.m, octave gives me numerous
> errors- are there libraries I need to include, or command line switches that
> are routinely used with octave?
>
> The lines that seem to be causing the problem are thus:-
>
>     %  The sample rate....
>
> and:-
>
>     win = kaiser(s(:,2),8)';
>
> The errors are :-
>
>     error:    'kaiser' undefined
>     error:    evaluating index expression
>     error:    evaluating unary operator
>     error:    evaluating assignment expression
>     error:    evaluating expression
>
> The first 4 errors are caused by the 'win=' line, the last error is caused
> by the '%' line (I thought the % lines were comments but octave says the
> error is on line 1 and that is line 1)
> Any assistance would be gratefully received- 6809, 80x86 and pic's I can
> handle but all this very new to me.
>
> Cheers, Ken,vk7krj
> vk7krj@southcom.com.au
>
>
> ---
> You are currently subscribed to dsp as: FORRERJ@PEAK.ORG
> To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
>
>


---
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## 23. [dsp] Re: matlab alternative?

From: Rob Frohne <frohro@wwc.edu>
Date: Wed, 9 Jun 1999 12:14:39 -0700 (PDT)
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-25276-1999.06.09-14.21.00--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Ken,

You may have to make your own Kaiser function.  The formula using Bessel
functions was given in the article.  Kaiser may be a signal processing
toolbox routine.

73,

Rob
>
> Hi Johan, thanks for the reply, my first impression when I saw the readme on
> how to install octave on a windows system was to take up another hobby!!
> However, I printed it off, downloaded all the recommended files and worked
> my way through the installation (and remembered why I hate unix..). Now I
> can fire up octave but my unix/octave skills are in dire need of a little
> assistance.
> If I understand the process correctly, when I run the particular .m file
> (cw.m) that was used in the r2 receiver with the 56002evm, it generates the
> coefficients needed by the cw.asm file, which I can then assemble to the
> .cld file for the 56002. However when I run cw.m, octave gives me numerous
> errors- are there libraries I need to include, or command line switches that
> are routinely used with octave?
>
> The lines that seem to be causing the problem are thus:-
>

>     %  The sample rate....
>
> and:-
>
>     win = kaiser(s(:,2),8)';
>
> The errors are :-
>
>     error:    'kaiser' undefined
>     error:    evaluating index expression
>     error:    evaluating unary operator
>     error:    evaluating assignment expression
>     error:    evaluating expression
>
> The first 4 errors are caused by the 'win=' line, the last error is caused
> by the '%' line (I thought the % lines were comments but octave says the
> error is on line 1 and that is line 1)
> Any assistance would be gratefully received- 6809, 80x86 and pic's I can
> handle but all this very new to me.
>
> Cheers, Ken,vk7krj
> vk7krj@southcom.com.au
>
>
> ---
> You are currently subscribed to dsp as: FROHRO@WWC.EDU
> To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
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## 24. [dsp] Status of TUC-52 project

From: Alberto di Bene <dibene@usa.net>
Date: Thu, 10 Jun 1999 01:09:38 +0200
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-25306-1999.06.09-18.16.28--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

What is the status of the TUC-52 project ? From the photo on the TAPR Web site it
would seem that a PCB has been produced. Is it available ? Thanks for any info.

73,
Alberto   I2PHD



---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 25. [dsp] Re: matlab alternative?

From: TBaggett@AustinTX.net (Tim Baggett)
Date: Wed, 9 Jun 1999 23:12:43 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-25357-1999.06.09-23.16.52--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

-----Original Message-----
From: Ken Johnson <vk7krj@southcom.com.au>


<snip>
>However when I run cw.m, octave gives me numerous
>errors- are there libraries I need to include, or command line switches
that
>are routinely used with octave?
>
>The lines that seem to be causing the problem are thus:-
>
>    %  The sample rate....
>
>and:-
>
>    win = kaiser(s(:,2),8)';
>

>The errors are :-
>
>    error:    'kaiser' undefined
>    error:    evaluating index expression
>    error:    evaluating unary operator
>    error:    evaluating assignment expression
>    error:    evaluating expression
>

Ken,

Octave isn't a 100% Matlab clone. It is close from what I've read about it,
but there are some differences to watch out for. In Matlab the % does denote
a comment - I do not remember if this is the same in octave or not, although
I would be surprised if it was different.

The kaiser function is a function included with the Matlab Signal Processing
toolbox. Evidently, Octave does not have a clone of the Matlab toolboxes, or
at least, this particular function. This is why you are getting this error.

When I was looking into using Octave, it appeared to me that it cloned the
Matlab syntax and processing engine. That is, it would do all the same
mathematical operations that Matlab would. However, it didn't include all
the nifty functions that Matlab includes as standard and as additions in the
form of tool boxes. Perhaps by digging around on both the Octave and
Mathworks (www.mathworks.com) web sites, you can find freeware matlab code
that you can use instead.  There may be a free kaiser window function out
there.

73,
Tim, AA5DF

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 26. [dsp] Re: matlab alternative?

From: "Ken Johnson" <vk7krj@southcom.com.au>
Date: Fri, 11 Jun 1999 22:24:29 +1000
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-25540-1999.06.11-07.31.33--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi, thanks to the collective advice of everyone who replied to my plea for
help I now have the problem solved,  many thanks to all who helped.

Cheers, Ken,vk7krj
vk7krj@southcom.com.au

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 27. [dsp] DSP on a Pentium using Linux+sound card.

From: forrerj@peak.org (Johan Forrer)
Date: Sat, 12 Jun 1999 08:18:53 -0800
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-25671-1999.06.12-10.27.47--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi,

I thought some of you might be interested in the attached code snip.
Details at the start of the code snip. The code is released under GPL.

It shows how one can do DSP work on a Pentium-class processor
using Linux and a sound. No fancy GUI, but that is up to the programmer
to add.

This snip illustrates a couple of things:

a) How to get digitized sound in and out of the system,
b) A simple filter to show off a bit of DSP.

The author apparently uses something like this to process the
I/Q audio for his DSP radio. It really is the basis of a lot of
DSP applications.

73, Enjoy!

Johan, KC7WW

```
/*
 * rtfilter v0.01 by Hrafnkell Eiríksson - hkelle@hi.is
 *
 * Compile with: gcc -o rtfilter rtfilter.c
 *
 * This program uses a full duplex soundcard and a computer
 * as a Digital Signal Processor.
 * I've used it for filtering the audio output of my
 * homebuilt amateur radio receiver.
 *
 * The program reads 256 samples from the soundcard at a time
 * and filters them with a lowpass filter. The filter structure
 * is a "Direct Form I" filter as described in
 * "Discrete-Time Signal Processing" by Oppenheim and Schafer.
 * The filters used are elliptic filters designed using Matlab.
 *
 * To use it, plug something into your soundcard (mic or line-in)
 * and run, you should hear a filtered version of the signal on the
 * soundcard input.
 *
 * You'll need a full duplex sounddriver. If you are using a SoundBlaster
 * that means you'll need a 2.2.x kernel (I had some problems with the
 * audio up to 2.2.6)
 *
 * This program may be used and distributed as is stated in the
 * GNU General Public Licence (GPL) version 2 (June 1991) or later.
 * I make no guarantees that this program will do anything at all,
 * if it breaks you get to keep both halves.
 *
 * This program is distributed in the hope that it will be useful,
 * but WITHOUT ANY WARRANTY; without even the implied warranty of
 * MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the
 * GNU General Public License for more details.
 *
 * You should have received a copy of the GNU General Public License
 * along with this program; if not, write to the Free Software
 * Foundation, Inc., 59 Temple Place, Suite 330, Boston, MA  02111-1307  USA
 *
 */


#include<stdio.h>
#include<sys/time.h>
#include<sys/types.h>
#include<sys/stat.h>
#include<unistd.h>
#include<ioctls.h>
#include<fcntl.h>
#include<sys/soundcard.h>


/* Choose one of the following filters before compiling by uncommenting it.
 * Both are discrete eliptic filters designed with Matlab.
 * Plots of their frequencey responce can be found on my webpage
 * http://www.hi.is/~hkelle/
  */

/*
/* A filter for CW.
 * wp=0.2  ws=0.21    Apmax=0.1dB  Asmin=-40dB
 * (Translates into a filter wit the cutof frequency about 800Hz
 *
double b[10] = {0.01407712861272,-0.06482255737406,0.14135307428440,
                -0.16572222554534, 0.07643785987896, 0.07643785987914,
                -0.16572222554546, 0.14135307428445, -0.06482255737407,
                 0.01407712861272};
double a[9] = {-6.87282500213566, 22.03162928066765, -42.91319744744675,
                                   55.75375554146499,  -49.98342320425225, 30.87675653469449,
               -12.66451246552196, 3.12965218142988, -0.35518885918694};
int flen = 10;
```

```
*/

/*
 * A filter for SSB.
 * wp=0.5 ws=0.55     Apmax=0.1dB  Asmin=-40dB
 * (Translates into a fulter with the cutoff frequency about 2000Hz
 *  probably should change that to a higher cutoff frequency)
 */
double b[7] = {0.08749378595466, 0.25322740038487, 0.46667381298478,
               0.55340182212066, 0.46667381298478, 0.25322740038487,
               0.08749378595466};
double a[6] = {-0.44107668851614,1.65527539164646,-0.66069888664775,
                0.78358500841090,-0.22489964209969,0.08111311599083};
int flen = 7;

double *delay; /* This will be a pointer to the delays of the
                * filter, used for storing initial an post
                *  values of the filter
                */
/*
 * Implementation of the DirectForm I filter structure.
 * Inputs are:
 * in:    array of length len of the signal to filter
 * out:   array of length len of the filterd signal (returned)
 * len:   length of the signal arrays
 * b:     the numerator coefficient of the filter
 * a:     the denumerator coefficient of the filter
 * flen:  length of the filter (no of denumerator coeffs)
 * delay: the filter delay registers (used for initial values
 *        and returning final values of the delays)
 */
void filt(unsigned char *in, unsigned char *out, int len, double b[], double
a[], int flen, double delay[]) {
        int i, j, sampl;
        double w, outd;

        for(i=0;i<len;i++) {
                sampl = in[i];
                w = sampl - 127.0;  /* remove the DC value and convert to floating point */
                for(j=0;j<(flen-1);j++) {
                        w -= a[j]*delay[j];
                }
                outd = b[0]*w;
                for(j=0;j<(flen-1);j++) {
                        outd += b[j+1]*delay[j];
                }
                out[i] = outd + 127;  /* restore the DC value and convert to integer */
                for(j=(flen-2);j>0;j--) {
                        /* shift the values in the delays one down */
                        delay[j] = delay[j-1];
                }
                delay[0] = w;
        }
}

/*
 * Sets up the audio.
 * srate: sampling rate
 * chan:  mono (=0) or stereo (=1)
 * format: format of audio as defined in soundcard.h
 */
int init_audio(int srate, int chan, int format) {
        int audio_fd, mixer_fd;
        int caps;
        int enable_bits = ~(PCM_ENABLE_OUTPUT|PCM_ENABLE_INPUT);
        int fragsize = 0x7fff0008;

        mixer_fd = open("/dev/mixer", O_RDWR);
        if (mixer_fd < 0)
                return -14;
        audio_fd = open("/dev/dsp0", O_RDWR);
        if (audio_fd < 0)
                return -4;

        if (ioctl(audio_fd, SNDCTL_DSP_SETDUPLEX, 0))
                return -1;
        if (ioctl(audio_fd, SNDCTL_DSP_GETCAPS, &caps))
                return -1;
        if ((caps&DSP_CAP_DUPLEX) != DSP_CAP_DUPLEX)  /* we have to have a full
```

```
duplex audio */
                return -2;
        if (ioctl(audio_fd, SNDCTL_DSP_SETTRIGGER, &enable_bits)) /* disable
recording/playback before setting parameters*/
                return -1;
        if (ioctl(audio_fd, SNDCTL_DSP_SETFMT, &format))
                return -1;
        if (ioctl(audio_fd, SNDCTL_DSP_STEREO, &chan))
                return -1;
        if (ioctl(audio_fd, SNDCTL_DSP_SPEED, &srate))
                return -1;
        if (ioctl(audio_fd, SNDCTL_DSP_SETFRAGMENT, &fragsize))
                return -3;
        enable_bits = PCM_ENABLE_OUTPUT|PCM_ENABLE_INPUT;
        if (ioctl(audio_fd, SNDCTL_DSP_SETTRIGGER, &enable_bits)) /* enable
recording/playback again */
                return -1;

        /* Turn of the LineIn connection to the ouput mixer
    * so that we dont get a copy of the inputsignal
    * superimposed on the output, that would make all the
    * filtering quite pointless!
    */
        caps = SOUND_MIXER_LINE;
        if (ioctl(mixer_fd, MIXER_WRITE(SOUND_MIXER_OUTSRC), &caps) < 0) {
                return -10;
        }
        close(mixer_fd); /* we're done with the mixer */

        return audio_fd;
}

void main(int argc, char *argv[]) {
        int audio_fd;
        fd_set rs, ws;
        int res;
        unsigned char *audio_buf_in;
        unsigned char *audio_buf_out;
        audio_buf_info ai;
        int need_to_write = 0;
        int size;
        int i;

        audio_buf_in = (char*)malloc(BUF_SIZE*sizeof(char));
        audio_buf_out = (char*)malloc(BUF_SIZE*sizeof(char));
        FD_ZERO(&rs);
        FD_ZERO(&ws);
        /* Initialize the audio hardware to 8000Hz sampling frequency
         * mono and unsigned 8 bit quantization
         */
        audio_fd = init_audio(8000, 0, AFMT_U8);
        if (audio_fd < 0) {
                printf("eror audio_fd is %d\n", audio_fd);
                exit(-1);
        }
        delay = (double*)malloc((flen-1)*sizeof(double));
        for(i=0;i<(flen-2);i++) {
                delay[i] = 0;
        }
        FD_SET(audio_fd, &rs);

        while(1) {
                if ((res = select(audio_fd+1, &rs, NULL, NULL, NULL))<=0) { /* wait for
data to read */
                        printf("res = %d\n",res);
                }
                ioctl(audio_fd, SNDCTL_DSP_GETISPACE, &ai);
                if (FD_ISSET(audio_fd, &rs) & (ai.bytes >= BUF_SIZE)) { /* do we really
have BUF_SIZE or more bytes? */
                        /* if so, read the data and filter it */
                        size = read(audio_fd, audio_buf_in, BUF_SIZE);
                        filt(audio_buf_in, audio_buf_out, size, b, a, flen, delay);
                        FD_ZERO(&rs);
                        FD_SET(audio_fd, &rs);
                        need_to_write = 1;
                }
                if ((need_to_write == 1)) {
                        need_to_write = 0;
                        size = write(audio_fd, audio_buf_out, size);
```

```
                }
        }
}
```

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 28. [dsp] Newbie: External EPROM

From: "Jean-Francois Joly" <jolyal@capitalnet.com>
Date: Thu, 24 Jun 1999 13:13:10 -0400
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-27333-1999.06.24-12.15.01--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello everyone,

first I would like to know, what is the external eprom for? Will it enable
me to run programs without having to upload them each time I take out the
power? If so, wouhou! :)

In fact, is it an eprom or a flash eprom that I need? To store the programs,
do I need an eprom programmer or do I just send the programs to the evm as I
usually do? (With special assembler instructions?)

I was wondering, is there enought space on the board to install a 28-pin ZIP
socket for the eprom?

Thanks a lot,
Jean-Francois

---
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To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 29. [dsp] Re: Newbie: External EPROM

From: John Melton - Sun UK - ENS <John.Melton@UK.Sun.COM>
Date: Fri, 25 Jun 1999 08:11:42 +0100 (BST)
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-27471-1999.06.25-02.19.10--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On the Motorola 56002EVM board,  it is a flash eeprom,  so you can solder in a
regular socket,  and plug the eeprom in.  There is code available to program the
package from N1OWU that just runs on the board,  no additional hardware
required.

After loading the eeprom,  the code that was loaded will be started up
automatically when the board is powered on.  I have mine startup by default with
the G3RUH 9600 baud modem for the satellites.  You can still download other code
to run.

-- John Melton  n6lyt/g0orx

```
  ((
 (|~~|
  `--'
  JAVA
```

I
> To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
> Subject: [dsp] Newbie: External EPROM
> MIME-Version: 1.0
> Content-Transfer-Encoding: 7bit
> X-Priority: 3
> X-MSMail-Priority: Normal
> X-MimeOLE: Produced By Microsoft MimeOLE V4.72.3110.3
> List-Unsubscribe: <mailto:leave-dsp-3532K@lists.tapr.org>
> List-Software: Lyris Server version 3.0
> List-Subscribe: <mailto:subscribe-dsp@lists.tapr.org>
> List-Owner: <mailto:owner-dsp@lists.tapr.org>

> X-List-Host: Tucson Amateur Packet Radio <http://www.tapr.org>
> X-Message-Id: <000901bebe64$d68b1a00$b638bfce@fisherma>
>
> Hello everyone,
>
> first I would like to know, what is the external eprom for? Will it enable
> me to run programs without having to upload them each time I take out the
> power? If so, wouhou! :)
>
> In fact, is it an eprom or a flash eprom that I need? To store the programs,
> do I need an eprom programmer or do I just send the programs to the evm as I
> usually do? (With special assembler instructions?)
>
> I was wondering, is there enought space on the board to install a 28-pin ZIP
> socket for the eprom?
>
> Thanks a lot,
> Jean-Francois
>
>
> ---
> You are currently subscribed to dsp as: JOHN.MELTON@UK.SUN.COM
> To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
>

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 30. [dsp] Re: Newbie: External EPROM

From: Douglas Braun <doug.braun@intel.com>
Date: Fri, 25 Jun 1999 10:36:21 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-27523-1999.06.25-10.43.29--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 08:11 AM 6/25/99 +0100, you wrote:
>On the Motorola 56002EVM board,  it is a flash eeprom,  so you can solder in a
>regular socket,  and plug the eeprom in.  There is code available to program
>the
>package from N1OWU that just runs on the board,  no additional hardware
>required.

There is really no point is installing a ZIF socket if you are using an EEPROM,
since you will have no reason to ever remove it, unless it fails.

A while back my EEPROM appeared to suddenly stop being programmable. I desperately
started swapping in some spares, only to find that the problem persisted.  I almost
damaged the PCB in my haste.  In the end, it turned out to be a software bug.

Doug
N1OWU

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
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## 31. [dsp] Re: Interesting chips

From: "Louis Cobet" <Louis_Cobet@email.msn.com>
Date: Sun, 27 Jun 1999 11:48:27 -0700
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-27715-1999.06.27-13.56.56--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello,

I recently attended a Texas Instruments seminar. Part of the presentation
was about a microcontroller named MSP430. What is interesting about this
chip is its low cost and low power usage. The details are available on the
TI web pages.

I think it should be considered as a microcontroller for experimental
projects because of its low cost, low power usage and relatively high MIPS.

The other interesting chip was, as part of its C5000 series, TI has a 5402
DSP chip with 100 MIPS for $5 each in production quantities. Again, the

details are available on the
TI web pages.

A relatively low price 56K radio modem?

Louis Cobet, K6MDH
k6mdh@arrl.net

---
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To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 32. [dsp] Re: DSP on a Pentium using Linux+sound card.

From: Douglas Braun <doug.braun@intel.com>
Date: Mon, 28 Jun 1999 10:17:47 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-27854-1999.06.28-15.24.10--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 10:18 AM 6/12/99 -0800, Johan Forrer wrote:
>Hi,
>
>I thought some of you might be interested in the attached code snip.
>Details at the start of the code snip. The code is released under GPL.
>
>It shows how one can do DSP work on a Pentium-class processor
>using Linux and a sound. No fancy GUI, but that is up to the programmer
>to add.
>
>This snip illustrates a couple of things:
>
>a) How to get digitized sound in and out of the system,
>b) A simple filter to show off a bit of DSP.
>
>The author apparently uses something like this to process the
>I/Q audio for his DSP radio. It really is the basis of a lot of
>DSP applications.
>
>73, Enjoy!

Thanks for posting this.  I was wondering about a couple of things:

1: The filters do not seem tob e the FIR type seen in most EVM programs.
What are the advantages of this algorithm compared to the FIR one?  The
FIR algorithm is definitely simpler, but what is the relative speed and performance?

2: This program used 8-bit audio (yuck).  Will it work with 16-bit samples by
simply changing the initialization settings and the sample buffer data types?

Thanks,

Doug
N1OWU

---
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To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 33. [dsp] TAPR Web Pages

From: Greg Jones <wd5ivd@tapr.org>
Date: Mon, 28 Jun 1999 15:27:09 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-27857-1999.06.28-15.34.40--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The TAPR web pages should all point to the correct locations of the DSP ftp
site.

Sorry for the delay in getting these links updated.

Cheers - Greg
-----
Greg Jones, WD5IVD                Austin, Texas
wd5ivd@tapr.org      http://www.tapr.org/~wd5ivd

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 34. [dsp] Re: TAPR Web Pages

From: Tim Baggett <aa5df@yahoo.com>
Date: Mon, 28 Jun 1999 15:02:47 -0700 (PDT)
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-27864-1999.06.28-17.06.43--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Ooops! I wasn't even aware the web links were broken....

I'm guessing the 56307 EVM proj and other DSPDEV projs are on hold?

Tim

--- Greg Jones <wd5ivd@tapr.org> wrote:
> The TAPR web pages should all point to the correct locations of the DSP ftp
> site.
>
> Sorry for the delay in getting these links updated.
>
> Cheers - Greg

_____
Do You Yahoo!?
Get your free @yahoo.com address at http://mail.yahoo.com

---
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# July 1999

Original source file: dsp.9907
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/dspsig/mail_archive/dsp.9907

## 1. [dsp] 1999 ARRL and TAPR Digital Communications Conference

From: Greg Jones <wd5ivd@tapr.org>
Date: Thu, 1 Jul 1999 14:00:26 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-28280-1999.07.01-14.10.31--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

1999 ARRL and TAPR Digital Communications Conference
September 24-26, 1999
Phoenix, Arizona

Web: http://www.tapr.org/dcc

---

It's that time again! Time to start making your travel plans and
thinking about what to publish for the upcoming 18th Annual ARRL
and TAPR Digital Communications Conference.

The 1999 ARRL and TAPR Digital Communications Conference will
be held September 24-26, 1999 in Phoenix, Arizona. This year's
conference location is just minutes away from the Phoenix Sky Harbor
International Airport (PHX).

For full details on the conference, refer to the web page listed above.

---

Contact TAPR to register for the DCC:

Tucson Amateur Packet Radio
8987-309 E. Tanque Verde Road #337
Tucson, AZ 85749-9399.
phone 940-383-0000, fax 940-566-2544
e-mail tapr@tapr.org, browse http://www.tapr.org

---
Greg Jones, WD5IVD Austin, Texas
wd5ivd@tapr.org http://www.tapr.org/~wd5ivd

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
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## 2. [dsp] Polish Windows Help File for Windows SB version 1.06

From: Eduardo Jacob <jtpjatae@bicc00.bi.ehu.es>
Date: Mon, 05 Jul 1999 21:25:54 +0200
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-28813-1999.07.05-14.33.17--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

There is a new Polish Windows Help File for Windows SB version 1.06 translated by Marek SP7DQR. It's
here:

ftp://det.bi.ehu.es/pub/ham/psk31/p31sbw106-pl.zip

http://www.kender.es/~edu/download/p31sbw106-pl.zip

Eduardo/EA2BAJ

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 3. [dsp] PSK31SBW 1.07 available.

From: Eduardo Jacob <jtpjatae@bicc00.bi.ehu.es>
Date: Mon, 05 Jul 1999 21:26:25 +0200
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-28815-1999.07.05-14.33.49--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

This one just has the feature of an option to display all zeros as Ø
(slash-O). This version matched version 1.32 of PSKGNR which displays
outgoing zeros as Ø but transmits them as real ASCII zeros.

The new version is available as usual here:

        ftp://det.bi.ehu.es/pub/ham/psk31/p31sbw107.zip or

        http://www.kender.es/~edu/download/p31sbw107.zip

        Regards

        Eduardo/EA2BAJ

---
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To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 4. [dsp] DSP-93 Loader

From: w4sm@cstone.net (Stacey Mills)
Date: Wed, 07 Jul 1999 07:07:10 -0400
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-29027-1999.07.07-06.14.58--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Dear Group,

   Does anyone have the source code or algorithm for the DSP-93 *.obj file
loader, DSPLOAD.EXE? ... or the Win3.1 version, D93we.EXE?  There are some
manipulations that take place with an *.obj file before it is uploaded to
the DSP-93 and I have not found a good documentation site for these.  I
want to incorporate an "autoload" feature in some software that I'm upgrading.

   Thanks.

--
 _____________________________________________________________
 Stacey E. Mills, W4SM    WWW:  http://www.cstone.net/~w4sm/ham1.html
  Charlottesville, VA     PGP key:      http://www.cstone.net/~w4sm/key
 _____________________________________________________________

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 5. [dsp] Spanish P31SBW107 Help File available

From: Eduardo Jacob <jtpjatae@bicc00.bi.ehu.es>
Date: Fri, 09 Jul 1999 20:08:40 +0200
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-29428-1999.07.09-13.16.27--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Pauli EA3BLQ has prepared the upgrade help file for the new version of P31SBW

        It's available at:

ftp://det.bi.ehu.es/pub/ham/psk31/p31sbw107.zip or
http://www.kender.es/~edu/download/p31sbw107.zip

        Edu

-----------------------------------------------------------
Eduardo EA2BAJ
DSP and HAM:   http://det.bi.ehu.es/~jtpjatae/ham.html
VHF PACKET: EA2BAJ @ EA2URV
PGP Key avlb: Send email w/subject: PGPKEY
fingerprint : D8 FA 54 49 F7 40 BA AA 09 1A 73 40 A4 26 ED BD

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 6. [dsp] Problem with EVM-RI kit...

From: "Tom Scott" <tscott@eni.net>
Date: Wed, 14 Jul 1999 22:16:43 -0700
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>

Message-ID: <LYR3532-30134-1999.07.15-00.25.34--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

TAPR folk,

I've got a strange problem with my EVM-RI kit. I finally got around to getting it built last night, and most of it went together very well. The instructions are very clear and the boards and kitting are very high quality, but when it came to mounting things on the back panel, nothing lined up very well. Two of the trim pots were way out of alignment with their access holes, and the power connector knockout was on the wrong end of the panel. My first thought was that someone decided to move the power connector for some reason, but then I discovered that where it was located it interfered with the EVM board.

Finally it dawned on me that they had silk-screened the wrong side of the panel! I flipped the panel over and sure enough, everything lined up perfectly, but the silk screening is on the inside of the box where it will be a little inconvenient to read (grin).

Is there any chance I can get a replacement panel somehow? I hate to do without the legend on the back panel...

Thanks!

- Tom

```
_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/
   Tom Scott     -    Wyle Electronics    -    KD7DMH
   10300 SW Nimbus Ave #PB, Portland, OR 97223
   503-603-1931 - TEL    503-684-6620 - FAX
   503-703-2032 - Cell    503-604-8651 - Pager
_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/
```

---
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## 7. [dsp] Interfacing the EVM-RI to a Ten-Tec Omni V...

From: "Tom Scott" <tscott@eni.net>
Date: Wed, 14 Jul 1999 23:09:34 -0700
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-30144-1999.07.15-01.18.08--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I have built a TAPR EVM-RI that I want to connect to my Omni-V and am wondering if anyone out there has done this and has any tips on appropriate connections. I'm sure I can figure it out from the documentation, but I don't believe in re-inventing any wheels that I don't have to, so if anyone has experience with this or something similar I'd welcome any advice.

The radio interface kit has two radio channels that each have connections for:
TxA
GND
PTT
RxA
CAT
Down
Up
Icom

I'm sure a subset of these is probably adequate, but any suggestions about interfacing this to an Omni V would be appreciated.

- Tom

```
_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/
   Tom Scott     -    Wyle Electronics    -    KD7DMH
   10300 SW Nimbus Ave #PB, Portland, OR 97223
   503-603-1931 - TEL    503-684-6620 - FAX
   503-703-2032 - Cell    503-604-8651 - Pager
_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/
```

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To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 8. [dsp] Re: Problem with EVM-RI kit...

From: w4sm@cstone.net (Stacey Mills)
Date: Thu, 15 Jul 1999 06:45:05 -0400
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-30149-1999.07.15-05.56.15--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 10:16 PM 7/14/1999 -0700, you wrote:

>Is there any chance I can get a replacement panel somehow? I hate to do
>without the legend on the back panel...

Call or E-mail the TAPR office.  I'm sure they'll send you a replacement.
My kit had two of the front panel circuit boards and no rear panel board.
They fixed it very quickly.

You'll like the DSP56002EVM!!  Great setup!

--
 _____________________________________________________________________
 Stacey E. Mills, W4SM    WWW:  http://www.cstone.net/~w4sm/ham1.html
  Charlottesville, VA     PGP key:      http://www.cstone.net/~w4sm/key
 _____________________________________________________________________

---
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## 9. [dsp] Re: Interfacing the EVM-RI to a Ten-Tec Omni V...

From: "Steven R. Bible" <srbible@gate.net>
Date: Thu, 15 Jul 1999 21:21:54 -0400
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-30250-1999.07.15-20.29.57--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 11:09 PM 7/14/99 -0700, you wrote:
>I have built a TAPR EVM-RI that I want to connect to my Omni-V and am
>wondering if anyone out there has done this and has any tips on appropriate
>connections. I'm sure I can figure it out from the documentation, but I
>don't believe in re-inventing any wheels that I don't have to, so if anyone
>has experience with this or something similar I'd welcome any advice.
>
>The radio interface kit has two radio channels that each have connections
>for:
>TxA
>GND
>PTT
>RxA
>CAT
>Down
>Up
>Icom
>
>I'm sure a subset of these is probably adequate, but any suggestions about
>interfacing this to an Omni V would be appreciated.

Tom, if you've interfaced a TNC to a radio before, you'll find that
interfacing the EVM the same.

At the minimum you'll need TxA, RxA, Gnd, and PTT.  The trick is to find
these signals on your Omni-V.  Best place is the accessory jack on the rear
panel of the radio.  Since I do not own an Omni-V, I'm guessing, but radios
of that quality usually have an accessory port.

In case you haven't downloaded it, I wrote a Getting Started Guide.  It is
still draft.  You can find it at

    ftp://ftp.tapr.org/dsp/Motorola/dsp56002/evm56k/TAPR_evmri/

Good Luck!

- Steve, N7HPR
  n7hpr@tapr.org
  n7hpr@amsat.org

---
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To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 10. [dsp] Re: Problem with EVM-RI kit...

From: "Steven R. Bible" <srbible@gate.net>
Date: Thu, 15 Jul 1999 21:54:40 -0400
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Cc: ka5dwr@tapr.org
Message-ID: <LYR3532-30258-1999.07.15-21.02.09--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 10:16 PM 7/14/99 -0700, you wrote:

[snip]

>Finally it dawned on me that they had silk-screened the wrong side of the
>panel! I flipped the panel over and sure enough, everything lined up
>perfectly, but the silk screening is on the inside of the box where it will
>be a little inconvenient to read (grin).
>
>Is there any chance I can get a replacement panel somehow? I hate to do
>without the legend on the back panel...


Holly Cow Tom!

We've had some doozies with kits, but this bakes the cake.

Please call Dorothy at the office and she'll gladly send you a new one.


- Steve, N7HPR
  n7hpr@tapr.org
  n7hpr@amsat.org


---
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## 11. [dsp] Re: Problem with EVM-RI kit...

From: "Tom Scott" <tscott@eni.net>
Date: Thu, 15 Jul 1999 23:33:42 -0700
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Cc: <n7hpr@tapr.org>
Message-ID: <LYR3532-30287-1999.07.16-01.42.09--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Steve,

She's already working on it. She said she'd get back to me tomorrow to let
me know when to expect it. I told her I'd send the original back. It's a
perfectly good panel if they just print the other side. I'm sure no one will
mind the flopped printing on the inside.

- Tom
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   Tom Scott     -    Wyle Electronics    -    KD7DMH
   10300 SW Nimbus Ave #PB, Portland, OR 97223
   503-603-1931 - TEL    503-684-6620 - FAX
   503-703-2032 - Cell    503-604-8651 - Pager
_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/


-----Original Message-----
From:   bounce-dsp-8821@lists.tapr.org [mailto:bounce-dsp-8821@lists.tapr.org]
On Behalf Of Steven R. Bible
Sent:   Thursday, July 15, 1999 6:55 PM
To:     TAPR DSP Special Interest Group
Cc:     ka5dwr@tapr.org
Subject:        [dsp] Re: Problem with EVM-RI kit...

At 10:16 PM 7/14/99 -0700, you wrote:

[snip]

>Finally it dawned on me that they had silk-screened the wrong side of the

>panel! I flipped the panel over and sure enough, everything lined up
>perfectly, but the silk screening is on the inside of the box where it will
>be a little inconvenient to read (grin).
>
>Is there any chance I can get a replacement panel somehow? I hate to do
>without the legend on the back panel...


Holly Cow Tom!

We've had some doozies with kits, but this bakes the cake.

Please call Dorothy at the office and she'll gladly send you a new one.


- Steve, N7HPR
  n7hpr@tapr.org
  n7hpr@amsat.org


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## 12. [dsp] PSK31 and Windows 98

From: "Thomas M. Alldread" <tma@mail.island.net>
Date: Fri, 16 Jul 1999 08:17:23 -0700
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-30320-1999.07.16-11.11.49--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Greetings All:

        A friend of mine has run into a slight problem with the Sound Blaster
version of the PSK31 software running under Windows 98. Following system
start up the PSK31 application is unable to communicate with the SB
board until a DOS SB RTTY program is run and then closed prior to
starting PSK31. It appears Windows 98 initially blocks the PSK31-to-SB
communications until the RTTY program is run within a DOS Window which
apparently changes the configuration to match the needs of the PSK31
application.

        I wonder if anyone here has encountered a similar problem and/or knows
of a fix?

        Many thanks in advance for any help!

73 & Enjoy!
Tom, VE7TMA
tma@island.net

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## 13. [dsp] Re: PSK31 and Windows 98

From: "L. J. Shepherd" <ljs@west.net>
Date: Fri, 16 Jul 1999 20:58:38 -0700
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-30391-1999.07.16-23.07.12--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Tom,    Has your friend checked the startup folder in Windows to see if
he/she has an application that is initialized on boot that may be
"capturing" the resources needed by PSK31 ?    ........L. J. Shepherd  K6OYY



At 08:17 AM 7/16/99 -0700, you wrote:
>Greetings All:
>
>       A friend of mine has run into a slight problem with the Sound Blaster
>version of the PSK31 software running under Windows 98. Following system

>start up the PSK31 application is unable to communicate with the SB
>board until a DOS SB RTTY program is run and then closed prior to
>starting PSK31. It appears Windows 98 initially blocks the PSK31-to-SB
>communications until the RTTY program is run within a DOS Window which
>apparently changes the configuration to match the needs of the PSK31
>application.
>
>       I wonder if anyone here has encountered a similar problem and/or knows
>of a fix?
>
>       Many thanks in advance for any help!
>
>73 & Enjoy!
>Tom, VE7TMA
>tma@island.net
>
>---
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>To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
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>


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## 14. [dsp] Questions connecting the EVMRI to a Ten-Tec Omni V...

From: "Tom Scott" <tscott@eni.net>
Date: Sat, 17 Jul 1999 17:31:41 -0700
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-30486-1999.07.17-19.39.58--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I am trying to decide what to connect the EVM RI to on my radio. I have the TxA, RxA, and PTT signals pretty well figured out, but have some questions on the others. I could really use some suggestions from someone. I've never connected anything to the radio before or done any packet or other digital modes, so I'm kind of guessing about what's useful.

The main function I wanted the EVM for is to try some filtering to reduce a high background noise level at my QTH. I usually have about S5 or S6 noise floor with my CW filters off. So I guess the TxA, RxA, and PTT are probably all I need for now, but as long as I'm making up the cable, I'd prefer to hook up anything else I'm going to need. I'm sure I will experiment with some digital modes as well eventually. I'm also interested in learning more about DSP and may eventually write some code for the EVM of my own.

A quick look at my Omni V manual reveals some signals on the back panel that sound right and some that aren't readily available. Any comments?:

TxA  =>  "Audio In" - "Low level audio signals (500 mV max) such as an AFSK input, phone patch, etc. can be mixed together with the mic channel through this input. Typical input impedance is 2.2k ohms. Caution: some AFSK equipment will output a signal even when not activated. If this signal is left connected to the Audio In jack, it can interfere with normal SSB and VOX operation."

GND  =>  Can I assume that chassis ground is okay here?

PTT  =>  "PTT - This jack is in parallel with the push-to-talk line on the microphone front panel jack. ... Closure to ground places the transceiver in trasmit mode only in USB, LSB, and FM modes. It is inoperative in CW mode. (Steve, is this last comment about CW a problem?)

RxA  =>  "AF OUT" - "This jack provides a line level receiver audio output for use with an external RTTY demodulator or tape recorder. Level is not affected by the front panel AF gain control.

CAT  =>  I have found one message that indicates that this stands for "Computer Assisted Tuning"  but I don't know what that really means or how the signal is supposed to work. I don't think I have anything like that readily available.

Down & Up  =>  These two are apparently to adjust the tuning up or down, I guess to try to automatically adjust for frequency drift? Or maybe for band scanning? What applications use these? I don't seem to have anything readily available on the outside of my radio that sounds exactly right. There are

some signals on a DB25 that can be used for either computer control or an
external rotary encoder tuning knob. It has signals named PH1 and PH2 which
are described as rotary encoder quadrature phase signals for a remote tuning
knob. Could these work? Or would they require modifying the software? This
same DB25 contains a crude RS232 control interface and band status signals
to tell which band is selected.

Icom - ? I'm clueless here, can anyone tell me what this signal is used for
by any existing software?

Any pointers to more info on how these other signals are used would be
helpful. I may not need them for simple filter operation, but I might as
well get the cable built right from the beginning. If there is something
else I am going to need, I'd just as soon get it done.

A couple other signals and their descriptions that are available on my radio
and that seem like they might be useful for some applications:

"Mark / Space"   =>   "This is the input for RTTY keying. The RTTY Mark
level can be 0Vdc  to -15Vdc. The Spae should be between +2.5Vdc and
+15Vdc."

"RTTY Key"  =>  "This jack is in parallel with the Key Jack and can be used
to control the Omni V during RTTY operation. A closure to ground places the
transceiver in transmit mode."

Thanks for the help.

- Tom
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_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/
   Tom Scott     -    Wyle Electronics    -    KD7DMH
   10300 SW Nimbus Ave #PB, Portland, OR 97223
   503-603-1931 - TEL    503-684-6620 - FAX
   503-703-2032 - Cell    503-604-8651 - Pager
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## 15. [dsp] Re: PSK31 and Windows 98

From: Laura Halliday <lha@sdr.utias.utoronto.ca>
Date: Mon, 19 Jul 1999 12:11:43 -0400
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-30655-1999.07.19-11.20.11--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Tom VE7TMA wrote:

>A friend of mine has run into a slight problem with the Sound Blaster
>version of the PSK31 software running under Windows 98. Following system
>start up the PSK31 application is unable to communicate with the SB
>board until a DOS SB RTTY program is run and then closed prior to
>starting PSK31. It appears Windows 98 initially blocks the PSK31-to-SB
>communications until the RTTY program is run within a DOS Window which
>apparently changes the configuration to match the needs of the PSK31
>application.

Windows 98 isn't blocking anything: it's just not initializing the
sound card. The DOS-based program does the initialization Windoze
is failing to do.

Usual solution: updated driver for the card. Check all the usual
DOS environment variables and drivers. These are supposed to be
long obsolete, but they often matter in applications like this one.

Laura Halliday VA3LDH   "Que les nuages soient notre pied
Grid: FN03gs                a terre..." - Hospital/Shafte

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## 16. [dsp] Re: Questions connecting the EVMRI to a Ten-Tec Omni V...

From: Douglas Braun <doug.braun@intel.com>
Date: Mon, 19 Jul 1999 11:23:17 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-30671-1999.07.19-13.29.44--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 05:31 PM 7/17/99 -0700, you wrote:

>Down & Up  =>  These two are apparently to adjust the tuning up or down, I
>guess to try to automatically adjust for frequency drift? Or maybe for band
>scanning? What applications use these? I don't seem to have anything readily
>available on the outside of my radio that sounds exactly right. There are
>some signals on a DB25 that can be used for either computer control or an
>external rotary encoder tuning knob. It has signals named PH1 and PH2 which
>are described as rotary encoder quadrature phase signals for a remote tuning
>knob. Could these work? Or would they require modifying the software? This
>same DB25 contains a crude RS232 control interface and band status signals
>to tell which band is selected.

The PSK satellite modem needs to be able to tune the radio to compensate
for Doppler shift.  That is all these outputs are really for.  I know
of no other EVM software that uses them.  I guess it would be possible
to write something for HF that could use them, such as an auto-tune
program for SSB voice...

It sounds like your radio's PH1 and PH2 inputs work
differently than the "mike click" inputs that are normally used.
If the voltage levels were compatible, I'm sure that the software (if any)
could be modified to drive them.

In a nutshell, forget about these.

>CAT  =>  I have found one message that indicates that this stands for
>"Computer Assisted Tuning"  but I don't know what that really means or how
>the signal is supposed to work. I don't think I have anything like that
>readily available.

I have never seen any software that uses this.  Ignore it.

Doug
N1OWU

>CAT  =>  I have found one message that indicates that this stands for
>"Computer Assisted Tuning"  but I don't know what that really means or how
>the signal is supposed to work. I don't think I have anything like that
>readily available.

---
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## 17. [dsp] DSP56307 EVM...

From: "Tom Scott" <tscott@eni.net>
Date: Mon, 19 Jul 1999 23:40:28 -0700
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-30789-1999.07.20-01.52.38--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I have been building up an EVM-RI for a 56002EVM (just waiting on a
replacement panel to arrive, see earlier posting), but I have just gotten a
new DSP56307 EVM board. Studying the 56307 board, I believe it should drop
right into the EVM-RI, possibly with no changes. In addition, from what I
gather, I believe the code is a superset, and I think the interfaces may be
identical. The performance will be quite a bit better, with a 100MHz clock,
it is a 100 MIP processor.

Has anyone looked at using a 56307EVM with the applications that have been
developed for the 56002EVM? One thing that might be a problem is the Crystal
CODEC. The 56307 uses the Crystal 4218 instead of the 4215. I haven't looked
at the data sheets on the two yet to see what the differences might be from
a software perspective.

I thought I'd ask whether anyone else has looked at this board?

I'm on the road this week, but when I get back to my lab I will study all

this a little closer, and if anyone is interested, I'll report back what I
find.

-Tom
_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/
    Tom Scott    --    KD7DMH
    14623 SW Peak Court, Tigard Oregon 97224
    503-603-1931 - Day           503-684-6620 - Eve
    503-703-2032 - Cell           503-684-6620 - FAX
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## 18. [dsp] Re: Questions connecting the EVMRI to a Ten-Tec Omni V...

From: Tomi Manninen OH2BNS <tpm@prkele.tky.hut.fi>
Date: Tue, 20 Jul 1999 12:56:08 +0300 (EETDST)
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-30794-1999.07.20-05.04.26--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Mon, 19 Jul 1999, Douglas Braun wrote:

> At 05:31 PM 7/17/99 -0700, you wrote:
>
> >Down & Up   =>   These two are apparently to adjust the tuning up or down, I
> >guess to try to automatically adjust for frequency drift? Or maybe for band
> >scanning? What applications use these? I don't seem to have anything readily
> >available on the outside of my radio that sounds exactly right. There are
> >some signals on a DB25 that can be used for either computer control or an
> >external rotary encoder tuning knob. It has signals named PH1 and PH2 which
> >are described as rotary encoder quadrature phase signals for a remote tuning
> >knob. Could these work? Or would they require modifying the software? This
> >same DB25 contains a crude RS232 control interface and band status signals
> >to tell which band is selected.
>
> The PSK satellite modem needs to be able to tune the radio to compensate
> for Doppler shift.  That is all these outputs are really for.  I know
> of no other EVM software that uses them.  I guess it would be possible
> to write something for HF that could use them, such as an auto-tune
> program for SSB voice...

Well I know for sure that Pawels NEWQPSK and probably also MT63 HF modem
uses them. Both modems are able to correct for frequency error in software
up to a point but the up and down signals can be used to track larger
drifts. I'd guess there are other modems using these also.

The up and down controls are typically available on the mic connector of
your radio. A quadrature rotary encoder works differently so you'd at
least need to modify the source code to use them. If you are constructing
a universal cable I would think you want to make it so that you can
disconnect the up and down signals easily as there might be cases where
you don't want the modem to touch the frequency (without recompiling the
modem).

Tom also asked about the "Icom" signal. It is for the same purpose as the
up and down signals but Icom does things a bit differently. Instead of two
wires (active when grounded) Icom uses one wire that when grounded
directly moves the frequency up and when grounded through a small resistor
moves the freq down (or vice versa, I don't remember). Checking the EVMRI
schematics should confirm this but I don't have them around here. BTW I've
heard that this can be difficult to get working reliably...

> In a nutshell, forget about these.

In the beginning, yes. But if one is going to do any serious (unattended
maybe) HF digital communications, one will need them.

That said, I've never needed them... :-)

> >CAT   =>    I have found one message that indicates that this stands for
> >"Computer Assisted Tuning"  but I don't know what that really means or how
> >the signal is supposed to work. I don't think I have anything like that
> >readily available.
>
> I have never seen any software that uses this.  Ignore it.

I seem to remember the original definition for CAT was "Computer Aided
Transceiver" and was first used by Yaesu. It's now used as a general name
for any remote control (by computer) capability in a radio. I guess Alef
Nulls original idea was that this output, with suitable software and
hardware, could be used to control a CAT capable transceiver from within a
modem or whatever; to change frequency, mode etc.

Like Douglas, I've never seen anything that uses it so ignoring it seems
like a safe bet.

--
--- Tomi Manninen / Tomi.Manninen@hut.fi / OH2BNS @ OH2RBI.FIN.EU ---

---
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## 19. [dsp] Re: DSP56307 EVM...

From: TBaggett@AustinTX.net (Tim Baggett)
Date: Tue, 20 Jul 1999 09:06:03 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-30819-1999.07.20-09.02.24--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

-----Original Message-----
From: Tom Scott <tscott@eni.net>
To: TAPR DSP Special Interest Group <dsp@lists.tapr.org>
Date: Tuesday, July 20, 1999 1:47 AM
Subject: [dsp] DSP56307 EVM...

>I have been building up an EVM-RI for a 56002EVM (just waiting on a
>replacement panel to arrive, see earlier posting), but I have just gotten a
>new DSP56307 EVM board. Studying the 56307 board, I believe it should drop
>right into the EVM-RI, possibly with no changes. In addition, from what I
>gather, I believe the code is a superset, and I think the interfaces may be
>identical. The performance will be quite a bit better, with a 100MHz clock,
>it is a 100 MIP processor.
>
>Has anyone looked at using a 56307EVM with the applications that have been
>developed for the 56002EVM? One thing that might be a problem is the Crystal
>CODEC. The 56307 uses the Crystal 4218 instead of the 4215. I haven't looked
>at the data sheets on the two yet to see what the differences might be from
>a software perspective.
>
>I thought I'd ask whether anyone else has looked at this board?

Yes, I have. You are right that the main difference is in the codec, but the
4218 doesn't seem to be that much different. There is a good application note
by Motorola that discusses the DSP interface to the CS4218 and I found very few
differences to the interface for the 4215.

The ESSI has changed a bit too, but is backwards compatible with the 56K SSI,
with the exception of a gated clock - this is of no concern to the codec
however.

One major drawback to the DSP56307EVM is the fact that the board doesn't bring
out many signals to external connectors. This view has FINALLY been changed by
Motorola, again, with their yet to be released DSP56311 (check out press
releases) in which the EVM board will pin out ALL DSP signals.

Current application code should port right over to the DSP563xx with
modifications only being made to the IO routines (peripheral memory mapping
changes). There may be situations where the current 56K application code will
generate stalls, but the DSP will automatically execute a NOP in that case. The
assembler does flag these inserted stalls with warnings, so you can easily go
back into the source and reorder opcodes, rewrite a small section, or ignore it
(my choice).

Regards,
Tim, AA5DF

---

You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 20. [dsp] Re: DSP56307 EVM...

From: Johan Forrer <forrerj@peak.org>
Date: Tue, 20 Jul 1999 08:21:03 -0700 (PDT)
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-30831-1999.07.20-10.28.43--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Tom,

I had a serious look at using the 56302 EVM which has similar
core. However, it is really a different animal all together.
It could be made to work if you have the time to rework quite
a few things. Otherwise, it is a great DSP part with lots
of possibilities.

73

Johan, KC7WW

On Mon, 19 Jul 1999, Tom Scott wrote:

> I have been building up an EVM-RI for a 56002EVM (just waiting on a
> replacement panel to arrive, see earlier posting), but I have just gotten a
> new DSP56307 EVM board. Studying the 56307 board, I believe it should drop
> right into the EVM-RI, possibly with no changes. In addition, from what I
> gather, I believe the code is a superset, and I think the interfaces may be
> identical. The performance will be quite a bit better, with a 100MHz clock,
> it is a 100 MIP processor.
>
> Has anyone looked at using a 56307EVM with the applications that have been
> developed for the 56002EVM? One thing that might be a problem is the Crystal
> CODEC. The 56307 uses the Crystal 4218 instead of the 4215. I haven't looked
> at the data sheets on the two yet to see what the differences might be from
> a software perspective.
>
> I thought I'd ask whether anyone else has looked at this board?
>
> I'm on the road this week, but when I get back to my lab I will study all
> this a little closer, and if anyone is interested, I'll report back what I
> find.
>
> -Tom
> _/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/
>     Tom Scott    --    KD7DMH
>     14623 SW Peak Court, Tigard Oregon 97224
>     503-603-1931 - Day           503-684-6620 - Eve
>     503-703-2032 - Cell           503-684-6620 - FAX
> _/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/
>
>
>
> ---
> You are currently subscribed to dsp as: FORRERJ@PEAK.ORG
> To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
>
>

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

# August 1999

Original source file: dsp.9908
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/dspsig/mail_archive/dsp.9908

## 1. [dsp] An all software HF/weak signal modem

From: Robert McGwier <rwmcgwier@home.com>
Date: Mon, 02 Aug 1999 03:31:10 -0400
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Cc: linux@tapr.or, amsat-bb@amsat.org
Message-ID: <LYR3532-32568-1999.08.02-02.43.13--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Yes Virginia, I am alive and well.

I have just gotten working a software implementation of
Mil. Std. 188-110-A1 modem using Soundblaster cards
and linux machines.  You must have a linux sound
system driver (using /dev/dsp) in order for this
to work.  It works in all modes, all speeds.
(75 bps-4800 bps, short and long interleavers),
it has a mode that is not in the mil-std that is
suitable for AX.25 and is an emulation but not a copy
of the Rohde & Schwarz modifications to the Mil
Std. and used in the their products.  They
use R&S-HDLC, I will use HDLC and the AX.25
system in linux.  This is NOT compatible with their
stuff because I don't want to fool with their proprietary
stuff but uses some of their approaches.

I will unleash it at the ARRL/TAPR DCC:

http://www.tapr.org/dcc

and there will be a paper in the proceedings with all of
the hairy gory details.

It will be distributed with a Gnu P.L.   It is based on
new work done by me extending work done by Nikias,
et. al. on using the EM algorithm to do simultaneous
channel parameter estimation and data estimation
in a near optimal fashion.  This escapes the Harris
patent since it is not an equalizer at all.  It makes
no attempt to equalize.  For those unfamiliar with the
EM algorithm, I will give a good bibliography in the
proceedings paper.  The EM algorithm was invented
and proven to work at the place I work in the mid
60's but is still drifting into widespread usage even
after Bell Labs made such a big fuss over it in
Rabiner's shop.

The last trick after getting symbol probabilities out of
the channel in a great fashion,  is decoding.  The
code makes extensive use of these probabilities and
the signal structure (8 psk, Grey coded, etc.) to
estimate soft decisions on the bits which are then
permuted back to the original order (deinterleaved)
and fed into the ka9q decoder (thanks Phil!).

It easily runs real time on a 100 Mhz linux pentium.
On my dec alpha, running on a file, it can demod
203 second transmission in 9 seconds.

I will support anyone who wishes to port it to Windoze
and I have the Visual development tools to help, I
just don't want to learn directX, at this time (though
my kids do).  I will start giving it away on the TAPR
site after I finish three things:

(1) Cleaning up my mess so that others can read it.
(2) Fixing the performance of the "cut-in" demanded by the standard
(3) Making an implementation improvement in the correlation for
     known symbols and their use in frequency offset calculations.

See you in Phoenix.

Bob

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 2. [dsp] Italian PSK31 .doc file and more.

From: Eduardo Jacob <jtpjatae@bicc00.bi.ehu.es>
Date: Wed, 04 Aug 1999 23:30:44 +0200
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-32961-1999.08.04-16.39.46--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I have somewhat updated the PSK31 homepage.

- I have added 2 interesting pages by Volker DH7UAF in German about PSK31SBW and MixW32 in links page.
- I have added a pointer to Nick UT2UZ Homepage.
- I have added a full blown indexed search for the whole PSK31 Mailing list archive, it's available from the mailing list page or directly at:

http://aintel.bi.ehu.es/psk31listsearch.html

- I have added a Word for Windows .doc file that contains the PSK31SBW helpfile in Italian by Eduardo Alcolado I5PAC, that has been supplied by Antonio Alcolado EA1MV mailto:alcolado@redestb.es . If somebody is willing to convert it in .HLP format this would be fine. The file is at:

ftp://det.bi.ehu.es/pub/ham/psk31/p31sbw106doc-it.zip or
http://www.kender.es/~edu/download/p31sbw106doc-it.zip

- I have also automated the subscribing process, now, it's a 2 step process, you send a message for subscribing, majordomo sends you a message that you have to succesfully receive and reply.

Hope you will like it.

Eduardo/EA2BAJ

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 3. [dsp] PSK31 Help file in Italian

From: Eduardo Jacob <edu@kender.es>
Date: Tue, 24 Aug 1999 00:36:49 +0200
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-35813-1999.08.23-17.47.04--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

There is a new Italian Windows Help File for Windows SB version 1.07 translated by Eduardo Alcolado I5PAC, and assembled in .HLP format by Pauli EA3BLQ. The file is here

ftp://det.bi.ehu.es/pub/ham/psk31/p31sbw107-it.zip and here

http://www.kender.es/~edu/download/p31sbw107-it.zip

Even if you managed to put the program at work without understanding anything in the Help file, you can allways get some very interesting concepts from the help file.

Eduardo/EA2BAJ

PD: I think than now we only miss a French and and a German Help files to answer most questions about PSK31.

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

# September 1999

Original source file: dsp.9909
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/dspsig/mail_archive/dsp.9909

## 1. [dsp] PSK31SBW Version 1.08

From: Eduardo Jacob <edu@kender.es>
Date: Wed, 01 Sep 1999 22:24:55 +0200
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-37628-1999.09.01-15.42.27--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The latest version 1.08 of PSK31SBW has a new feature which will help users to give accurate and useful signal quality reports to other PSK31 users.

When tuned to a PSK31 signal which is idling, the phase scope circle shows a decibel figure which is a measurement of the distortion of the received signal. So long as the signal is strong enough above the band noise and the QRM on each side, this decibel report can be passed to the other station to help him check that his audio drive levels are correct and the transmitter is not likely to be causing interference. This decibel readout is the same two-tone third-order intermodulation measurement that is used to test SSB linear amplifiers, so PSK31SBW v1.08 can also be used by SSB operators to check their linearity.

73
Peter

---

Available as usual at:

ftp://det.bi.ehu.es/pub/ham/psk31/p31sbw108.zip or

http://www.kender.es/~edu/download/p31sbw108.zip

Regards

Eduardo/EA2BAJ

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 2. [dsp] Interesting new device

From: Lyle Johnson <johnson@mmsi.com>
Date: Fri, 10 Sep 1999 13:56:10 -0700
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-38937-1999.09.10-16.07.29--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I just ordered an Analog Devices Evaluation board for their new dspConverter series. This looks like a very interesting part for Amateur experimentation.

Essentially, the dspConverter consists of:

2x 16-bit ADC, 64 kHz sampling rate with programmable gain amplifier for each channel

2x 16-bit DAC, 64 kHz sampling rate with programmable gain amplifier for each channel

52 MIPs ADSP-218x 16-bit DSP core with 16Kx24 program memory and 16Kx16 data memory

64K bytes FLASH memory

All on a chip 14mm (0.55 inch) x 22mm (0.86 inch) in size! Runs on 3.3V, draws 150 mW maximum!

There are versions without FLASH, with half the memory, and with single channel rather than dual channel codecs. Prices range (in 1,000s) from $15 to $22.43.

Looked like a worthy part for a successor to the 9600 bit/sec modem, the 1200 bps PSK modem, the MIC-E, a single-component KISS TNC with internal modem, ...

The eval board, which includes software tools, is normally $150, but there is a special on until 04 October for $50 if you go to it via the

following website:

        http://www.analog.com/dspConverter

This just looked too cool to pass up.

No, I don't own any ADI stock that I know of...

73,

Lyle

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 3. [dsp] PSK31 Help file in Italian

From: Eduardo Jacob <edu@kender.es>
Date: Fri, 10 Sep 1999 23:28:15 +0200
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-38941-1999.09.10-16.38.56--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

There is a new Spanish Windows Help File for Windows SB version 1.08 translated and assembled in .HLP format by Pauli EA3BLQ. The file is here

ftp://det.bi.ehu.es/pub/ham/psk31/p31sbw108-es.zip and here

http://www.kender.es/~edu/download/p31sbw108-es.zip

Even if you managed to put the program at work without understanding anything in the Help file, you can allways get some very interesting concepts from the help file.

        Eduardo/EA2BAJ

PD: I think than now we only miss a French and and a German Help files to answer most questions about PSK31.

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 4. [dsp] RE: Interesting new device

From: "Ian Ashley" <iana@kcbbs.gen.nz>
Date: Sat, 11 Sep 1999 23:17:12 +1200
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-39017-1999.09.11-06.28.12--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Lyle, would this kit be suitable for a 38k4 modem? If so I will order
one.
I hope to get to the AMSAT-NA AGM at San Diego.
Regards from Ian ZL1AOX.

> -----Original Message-----
> From: bounce-dsp-3338@lists.tapr.org
> [mailto:bounce-dsp-3338@lists.tapr.org]On Behalf Of Lyle Johnson
> Sent: Saturday, 11 September 1999 08:56
> To: TAPR DSP Special Interest Group
> Subject: [dsp] Interesting new device
>
>
> I just ordered an Analog Devices Evaluation board for their new
> dspConverter series.  This looks like a very interesting part for
> Amateur experimentation.
>
> Essentially, the dspConverter consists of:
>
> 2x 16-bit ADC, 64 kHz sampling rate with programmable gain amplifier for
> each channel
>
> 2x 16-bit DAC, 64 kHz sampling rate with programmable gain amplifier for
> each channel
>
> 52 MIPs ADSP-218x 16-bit DSP core with 16Kx24 program memory and 16Kx16
> data memory
>
> 64K bytes FLASH memory
>

> All on a chip 14mm (0.55 inch) x 22mm (0.86 inch) in size!  Runs on
> 3.3V, draws 150 mW maximum!
>
> There are versions without FLASH, with half the memory, and with single
> channel rather than dual channel codecs. Prices range (in 1,000s) from
> $15 to $22.43.
>
> Looked like a worthy part for a successor to the 9600 bit/sec modem, the
> 1200 bps PSK modem, the MIC-E, a single-component KISS TNC with internal
> modem, ...
>
> The eval board, which includes software tools, is normally $150, but
> there is a special on until 04 October for $50 if you go to it via the
> following website:
>
>       http://www.analog.com/dspConverter
>
> This just looked too cool to pass up.
>
> 73,
>
> Lyle
>

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 5. [dsp] dsp kit

From: Lyle Johnson <lylej@azstarnet.com>
Date: Sat, 11 Sep 1999 05:40:05 +0100
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-39030-1999.09.11-10.03.38--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Ian!

I'll be in San Diego as well, along with Heather.

With a clock of 16.384 MHz the A/D sampling rate maximumn is 64 kHz.  If
you clock it faster (can go as fast as 26 MHz) the sampling rate would
proportionately increase.  The ADC would be running out-of-spec, but it
would probably work well enough for modem purposes.

A 38k4 modem would need frequency response to at least 28.8 kHz if
G3RUH-style shaping is used on the transmitted baseband waveform.  This
could be done, especially if you run the ADC faster than 64 kHz.

In the end, I think it is possible to make this board into a 38k4 FSK
modem, but I'm not the guy to do it!

Regards,

Lyle

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 6. [dsp] PSK31 Help file in Spanish - no Italian

From: Eduardo Jacob <edu@kender.es>
Date: Sat, 11 Sep 1999 17:13:23 +0200
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-39031-1999.09.11-10.24.00--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I recycled the message and the subject wasn't rigth...

There is a new Spanish Windows Help File for Windows SB version 1.08 translated and assembled in .HLP
format by Pauli EA3BLQ. The file is here

ftp://det.bi.ehu.es/pub/ham/psk31/p31sbw108-es.zip and here

http://www.kender.es/~edu/download/p31sbw108-es.zip

Even if you managed to put the program at work without understanding anything in the Help file, you can
allways get some very interesting concepts from the help file.

Eduardo/EA2BAJ

PD: I think than now we only miss a French and and a German Help files to answer most questions about PSK31.

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 7. [dsp] Archives

From: "PAT McGRATH" <patricio@cyberg8t.com>
Date: Sat, 11 Sep 1999 11:14:51 -0700
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-39048-1999.09.11-13.25.16--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Help

How do you access the archives on this list?

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 8. [dsp] Re: Archives

From: TBaggett@AustinTX.net (Tim Baggett)
Date: Sun, 12 Sep 1999 00:21:26 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-39124-1999.09.12-00.26.52--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>How do you access the archives on this list?

Go to www.tapr.org, then select the Special Interest Groups link, then scroll
the left window down to find "DSP SIG Search"

Tim

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 9. [dsp] Re: Archives

From: "PAT McGRATH" <patricio@cyberg8t.com>
Date: Sat, 11 Sep 1999 22:41:25 -0700
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-39128-1999.09.12-00.53.47--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Tim

Thanks. I got it

Bye

> >How do you access the archives on this list?
>
>
> Go to www.tapr.org, then select the Special Interest Groups link, then
scroll
> the left window down to find "DSP SIG Search"
>
> Tim

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 10. [dsp] New version of PSK31 for the EVM on Windows

From: Eduardo Jacob <edu@kender.es>
Date: Mon, 13 Sep 1999 23:32:44 +0200
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-39424-1999.09.13-16.44.30--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The DSP56002EVM version of PSK31 has now been upgraded to include a
decibel readout of the intermodulation distortion on received idle
signals, exactly like the readout recently introduced on the PSK31SBW
program.

The new version 1.25 is available as usual here:

ftp://det.bi.ehu.es/pub/ham/psk31/p31evw125.zip or

http://www.kender.es/~edu/download/p31evw125.zip

        Eduardo

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 11. [dsp] AT29C256-12

From: "PAT McGRATH" <patricio@cyberg8t.com>
Date: Tue, 14 Sep 1999 12:24:00 -0700
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-39566-1999.09.14-14.34.51--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Help

Where can I obtain a AT29C256-12 Flash EEprom for the DSP56002EVM?

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 12. [dsp] Re: AT29C256-12

From: Johan Forrer <forrerj@peak.org>
Date: Tue, 14 Sep 1999 12:54:53 -0700 (PDT)
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-39570-1999.09.14-15.05.17--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Tue, 14 Sep 1999, PAT McGRATH wrote:

>
> Help
>
> Where can I obtain a AT29C256-12 Flash EEprom for the DSP56002EVM?
>
>

I ordered mine from www.jdr.com right off the web. Their prices are
really good nowadays.

73,

Johan, KC7WW

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 13. [dsp] DSP56002EVM

From: Alan Aulia Muhadjir <alan@elka.ee.itb.ac.id>
Date: Wed, 15 Sep 1999 06:11:00 +0700 (JAVT)
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-39595-1999.09.14-18.22.19--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Help..

Where can I buy DSP56002EVM with the regular price ?

I find at any store.. they didn't have it anymore..

Alan

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 14. [dsp] Re: AT29C256-12

From: "PAT McGRATH" <patricio@cyberg8t.com>
Date: Tue, 14 Sep 1999 17:11:17 -0700
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-39602-1999.09.14-19.22.41--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Johan

I did as you suggested and ordered same from JDR.

Thanks

Pat

----- Original Message -----
From: Johan Forrer <forrerj@peak.org>
To: TAPR DSP Special Interest Group <dsp@lists.tapr.org>
Sent: Tuesday, September 14, 1999 12:54 PM
Subject: [dsp] Re: AT29C256-12

>
>
> On Tue, 14 Sep 1999, PAT McGRATH wrote:
>
> >
> > Help
> >
> > Where can I obtain a AT29C256-12 Flash EEprom for the DSP56002EVM?
> >
> >
>
> I ordered mine from www.jdr.com right off the web. Their prices are
> really good nowadays.
>
> 73,
>
> Johan, KC7WW
>
>
> ---
> You are currently subscribed to dsp as: PATRICIO@CYBERG8T.COM
> To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
>
>

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 15. [dsp] Re: DSP56002EVM

From: forrerj@peak.org (Johan Forrer)
Date: Tue, 14 Sep 1999 20:15:47 -0800
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-39622-1999.09.14-22.23.02--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>
>Help..
>
>Where can I buy DSP56002EVM with the regular price ?
>
>I find at any store.. they didn't have it anymore..

>
>Alan
>
>

Alan,

I am sure you will get some pointers, but just
another suggestion you might try ...

Try Future Electronics in Portland,
Oregon (1-800-709-3040) and speak to Kay Chase.
She will know what you are talking about ---
they have it listed as a DSP56002EVM part.
I have bought several units from them in the $150 range
and most of the time it was in stock.

Incidentally, they also carry EVMs from Analog Devices.

I have no relations with Future, just a happy customer.

Hope this helps, Good luck!

Johan, KC7WW

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 16. [dsp] Re: DSP56002EVM

From: TBaggett@AustinTX.net (Tim Baggett)
Date: Wed, 15 Sep 1999 09:31:38 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-39688-1999.09.15-09.36.31--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>
>Where can I buy DSP56002EVM with the regular price ?

You can try Monterrey Tools at www.monterreytools.com (or something like that)

Tim

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 17. [dsp] Qrmqrn

From: "PAT McGRATH" <patricio@cyberg8t.com>
Date: Wed, 15 Sep 1999 20:52:20 -0700
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-39798-1999.09.15-23.03.15--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Can Qrmqrn work without a flash eprom?

I load bios2 then load qrmqrn and not able to hear any output.

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 18. [dsp] Rtcoeff

From: "PAT McGRATH" <patricio@cyberg8t.com>
Date: Wed, 15 Sep 1999 21:10:12 -0700
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-39803-1999.09.15-23.21.35--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

How do you run the Fir Audio Filter "RTCOEFF"

I am new to the DSP56002EVM so I need help.

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 19. [dsp] Re: DSP56002EVM

From: Alan Aulia Muhadjir <alan@elka.ee.itb.ac.id>
Date: Wed, 15 Sep 1999 16:35:39 +0700 (JAVT)
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-39804-1999.09.15-23.33.18--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Thanks Forrer..
I got it.. but the price is USD 200.

Regards,
Alan

On Tue, 14 Sep 1999, Johan Forrer wrote:

> >
> >Help..
> >
> >Where can I buy DSP56002EVM with the regular price ?
> >
> >I find at any store.. they didn't have it anymore..
> >
> >Alan
> >
> >
>
> Alan,
>
> I am sure you will get some pointers, but just
> another suggestion you might try ...
>
> Try Future Electronics in Portland,
> Oregon (1-800-709-3040) and speak to Kay Chase.
> She will know what you are talking about ---
> they have it listed as a DSP56002EVM part.
> I have bought several units from them in the $150 range
> and most of the time it was in stock.
>
> Incidentally, they also carry EVMs from Analog Devices.
>
> I have no relations with Future, just a happy customer.
>
> Hope this helps, Good luck!
>
> Johan, KC7WW
>
>
>
> ---
> You are currently subscribed to dsp as: alan@elka.ee.itb.ac.id
> To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
>

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 20. [dsp] Re: DSP56002EVM

From: "PAT McGRATH" <patricio@cyberg8t.com>
Date: Wed, 15 Sep 1999 21:44:32 -0700
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-39807-1999.09.15-23.55.22--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Monterey Tools sell same for $150

----- Original Message -----
From: Alan Aulia Muhadjir <alan@elka.ee.itb.ac.id>
To: TAPR DSP Special Interest Group <dsp@lists.tapr.org>

Sent: Wednesday, September 15, 1999 2:35 AM
Subject: [dsp] Re: DSP56002EVM

>
> Thanks Forrer..
> I got it.. but the price is USD 200.
>
> Regards,
> Alan

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 21. [dsp] Re: DSP56002EVM

From: "Steven R. Bible" <srbible@gate.net>
Date: Wed, 15 Sep 1999 15:08:50 -0400
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-39868-1999.09.16-08.04.40--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 06:11 AM 9/15/99 +0700, you wrote:
>
>Help..
>
>Where can I buy DSP56002EVM with the regular price ?
>
>I find at any store.. they didn't have it anymore..

You can order online at http://www.montereytools.com

$149.00 plus $15.00 shipping/handling.

No affiliation, please tell them TAPR sent you.

- Steve N7HPR

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 22. [dsp] Re: Rtcoeff

From: Douglas Braun <doug.braun@intel.com>
Date: Thu, 16 Sep 1999 09:18:19 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-39874-1999.09.16-09.29.54--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

This program can listen to wither the left or right channel, and
outputs to the left channel (I think).  You control the gain, bandwidth,
and input selection by sending individual characters to the serial port,
e.g. from a terminal emulator program.  The characters are:

C  CW bandwidth
S  SSB
A  AM

L  Left channel input
R  Right
+  Increase gain
-  Decrease gain

Doug Braun
N1OWU

At 11:10 PM 9/15/99 , you wrote:

>How do you run the Fir Audio Filter "RTCOEFF"
>
>I am new to the DSP56002EVM so I need help.
>
>

>
>
>---
>You are currently subscribed to dsp as: doug.braun@intel.com
>To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org


---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 23. [dsp] Re: DSP56002EVM

From: Johan Forrer <forrerj@peak.org>
Date: Thu, 16 Sep 1999 08:24:27 -0700 (PDT)
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-39887-1999.09.16-10.34.33--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Alan,

Interesting about the price ... could you do me a favor
and check what DSP speed that chip is. If it is a 100Mhz
part, it may well be why it is more expensive than the
previous 40 or 80 MHz parts. For a 100MHz part, it may
need faster (more expensive) SRAM and support chips
.... just guessing though. May be supply and demand.

73,

Johan



On Wed, 15 Sep 1999, Alan Aulia Muhadjir wrote:

>
> Thanks Forrer..
> I got it.. but the price is USD 200.
>
> Regards,
> Alan
>
> On Tue, 14 Sep 1999, Johan Forrer wrote:
>
> > >
> > >Help..
> > >
> > >Where can I buy DSP56002EVM with the regular price ?
> > >
> > >I find at any store.. they didn't have it anymore..
> > >
> > >Alan
> > >
> > >
> >
> > Alan,
> >
> > I am sure you will get some pointers, but just
> > another suggestion you might try ...
> >
> > Try Future Electronics in Portland,
> > Oregon (1-800-709-3040) and speak to Kay Chase.
> > She will know what you are talking about ---
> > they have it listed as a DSP56002EVM part.
> > I have bought several units from them in the $150 range
> > and most of the time it was in stock.
> >
> > Incidentally, they also carry EVMs from Analog Devices.
> >
> > I have no relations with Future, just a happy customer.
> >
> > Hope this helps, Good luck!
> >
> > Johan, KC7WW
> >
> >
> >

> > ---
> > You are currently subscribed to dsp as: alan@elka.ee.itb.ac.id
> > To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
> >
>
>
> ---
> You are currently subscribed to dsp as: FORRERJ@PEAK.ORG
> To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
>
>


---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 24. [dsp] DSP56002EVM

From: "Michael Hodges" <mick@g4ope.demon.co.uk>
Date: Thu, 16 Sep 1999 20:44:29 +0100
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-39925-1999.09.16-14.53.26--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Anyone in the UK looking to buy a DSP56002EVM, I have one for sale. Very
little use, still boxed and complete. Please email me direct.


Mick
G4OPE


---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 25. [dsp] DSP56002EVM EEPROM

From: "PAT McGRATH" <patricio@cyberg8t.com>
Date: Thu, 16 Sep 1999 16:17:24 -0700
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-39960-1999.09.16-18.47.55--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I just obtained a Flash EEPROM and did the following

load bios2
load fsk1200
load flshboot
go $3400

It worked .

Now I would like to use DL,  but need to erase the EEPROM so I can only have
Bios2 on startup.
Then use DL to load any program of choice.

How to do this?




---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 26. [dsp] Re: DSP56002EVM EEPROM

From: Douglas Braun <doug.braun@intel.com>
Date: Thu, 16 Sep 1999 21:45:57 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-40005-1999.09.16-21.56.53--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

You do not need to change anything.  After power-up, BIOS will wait a couple of seconds
for a program from the serial port.  If nothing arrives, it will start the pre-loaded
application.

DL first sends a "magic" character string that forces a software reset of the EVM.

After the reset, BIOS2 sends a character out the serial port to announce that
it is alive.  When DL sees this, it starts the download.

The only time this scheme fails is when an application changes the serial port speed.
In that case, the EVM cannot see the reset string.
But it does have the advantage that no extra signals are required between the EVM and the PC.
A better way to do it would be to send a break condition to reset the EVM,
would would be independent of the port speed.

G2PLX's boot loader (PLXVOOT) has a different scheme with its own advantages and disadvantages.

By the way, to re-program the EEPROM, just repeat what you orignally did, and the old stuff will
be overwritten.

Doug Braun
N1OWU


At 06:17 PM 9/16/99 , you wrote:
>I just obtained a Flash EEPROM and did the following
>
>load bios2
>load fsk1200
>load flshboot
>go $3400
>
>It worked .
>
>Now I would like to use DL,  but need to erase the EEPROM so I can only have
>Bios2 on startup.
>Then use DL to load any program of choice.
>
>How to do this?


---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 27. [dsp] DCC this coming Weekend in Phoenix

From: Greg Jones <wd5ivd@tapr.org>
Date: Sat, 18 Sep 1999 14:40:46 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-40273-1999.09.18-14.54.12--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Don't forget that the 1999 ARRL and TAPR Digital Communications Conference
is being held this next week Sept 24-26 in Phoenix, AZ.

For more details visit: http://www.tapr.org/dcc

The tentative schedule and proceedings abstracts are now available on the
conference page.

Look forward to seeing you at this year's DCC.

Cheers - Greg Jones, WD5IVD


-----
Greg Jones, WD5IVD
        President TAPR (http://www.tapr.org)
        PhD Candidate, Instructional Technology, UT Austin

email: wd5ivd@tapr.org
web: http://www.tapr.org/~wd5ivd


Experience is what you get when you were expecting something else.

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 28. [dsp] List of users for FS1052

From: Robert McGwier <rwmcgwier@home.com>
Date: Tue, 28 Sep 1999 07:43:33 -0400
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>

Message-ID: <LYR3532-42030-1999.09.28-06.55.06--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The very incomplete list of users I gave for FS1052
(Mil. Std. 188-110A) at DCC '99 came from and can
be augmented from any one of a number of Shortwave
listener's "secret list" publications or URL's.  I
got the short list I use for testing on one of these
URL's in Europe.  I blew away my netscape and
have lost the URL.  Maybe I will be able to search
it out again if there is any interest.

I expect the approval process for release of both
the binaries and source to continue until about
the end of the year.

Bob

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

# October 1999

Original source file: dsp.9910
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/dspsig/mail_archive/dsp.9910

## 1. [dsp] FW: TI's new TMS320C6000 DSP Starter Kit and Workshop

From: "Lanier, Robert" <rlanier@harris.com>
Date: Tue, 5 Oct 1999 14:29:29 -0400
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-43495-1999.10.05-13.41.15--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Some of you guys might be interested in this.

Tony

-----Original Message-----
From: Texas Instruments [mailto:ti@dsp2.dspnet.com]
Sent: Tuesday, October 05, 1999 3:27 PM
To: Lanier, Robert
Subject: TI's new TMS320C6000 DSP Starter Kit and Workshop

INTRODUCING TI's NEW TMS320C6211 DSP Starter Kit (DSK) AND ONE-DAY TECHNICAL WORKSHOPS - both offered for only $195

'C6211 DSP STARTER KIT (DSK)
The new 'C6211 DSK is an easy-to-use, low-cost kit that includes a board with a 150 MHz 'C6211 DSP and an extensive selection of software including the DSP industry's most efficient C Compiler, an Assembly Optimizer, DSK support software, and the Code Composer(TM) Debugger - all for only $195.  For more information visit: http://www.ti.com/sc/c6211dsk  To purchase a 'C6211 DSK contact your TI authorized distributor.

The hardware contents of the 'C6211 DSK include:
'C6211 DSK board
150 MHz 'C6211 DSP
4 MByte external SDRAM and 128 KByte external Flash
TI 16-bit Data Converter
TI Power Management device
JTAG controller
Expansion daughter card interface
CE compliant universal power supply

'C6211 DSK ONE-DAY WORKSHOPS - $195 with a FREE 'C6211 DSK
TI is also offering a special one-day hands-on workshop based upon the 'C6211 DSK. These workshops will be taught by qualified Texas Instruments instructors and every attendee recieves a C6211 DSK, all for only $195 - the standard cost of the 'C6211 DSK alone - a huge value!  The registration fee includes all training, materials and a 'C6211 DSK.

The 'C6211 DSK workshop is a one-day hands-on, lab based educational program facilitated by Texas Instruments instructors.  It is designed to offer engineers and engineering managers a practical introduction to the price and performance leading TMS320C6211 DSP, the Code Composer Studio integrated development environment and the TMS320C6211 DSK.  No prior DSP experience is required. Please join us with your "C" programming knowledge and leave the day "DSPing" on your own TMS320C6211 DSK.

TMS320C6211 DSK ONE-DAY WORKSHOP AGENDA
Hours: 8:30am-4:30pm (Lunch and refreshments will be served)

TMS320C6000 DSP Overview
        Advanced VLIW Architecture
        High Speed Memory and I/O
        High Performance, low cost, two-level cache 'C6211 DSP
Using the TMS320C6211 DSP Starter Kit (DSK)
        Introduction to Code Composer Studio (TM)
        Real-time design with DSP/BIOS
        Easy programming in "C" with the highly efficient 'C6000 C Compiler
Peripherals and System Design Considerations
Dates and locations are currently set for North America - with European details coming soon.  For workshop registration information please visit http://www.ti.com/sc/c6211dskworkshops

Thank you,
Texas Instruments

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 2. [dsp] Are there any BPSK modems for the DSP56002EVM?

From: Bent Bagger <bbagger@dscc.dk>
Date: Thu, 7 Oct 1999 09:28:35 +0200
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-43754-1999.10.07-02.46.45--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi folks on this list,

I'm looking for 400 and 1200 Bd BPSK modems and am wondering if any exists
for the DSP56002EVM. I would be particularly interested in a 400 Bd modem
for P3D telemetry, but a 1200 Bd modem for PacSat access will do fine.

I have looked in the TAPR archives but I have the impression that some of
the DSP56002EVM SW is located on other ftp servers.

Best 73 de Bent/OZ6BL

## 3. [dsp] Re: Are there any BPSK modems for the DSP56002EVM?

From: Robert McGwier <rwmcgwier@home.com>
Date: Thu, 07 Oct 1999 09:31:32 -0400
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-43768-1999.10.07-08.43.18--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I have the original source code for my demods for DSP56001 that
were used by AEA.  Any serious programmer of the EVM should be
able to port.  I have just gotten all the parts together as of the TAPR
meeting to put together my EVM in a box.  If another will step forward,
I will provide MINIMAL advice/support.  I am very busy and will be
traveling for work for the next month so do not expect much help
porting this.  Johan also has the source and this transfer was done
with Timewave approval. There are a few areas I would make improvements,
the first and most important is in the area of the clock recovery.  We
can make a big time improvement in that area.  All of my code is in
assembler, so you will need to read DSP56001 assembler.  I can give you
the improvement in C.  I am extremely busy and will be on the
road for work for a bit so this will of necessity have to be done without
a lot of help form me.

The improvement involves generating a better clock tone generation
followed by a phase estimator for the clock (PLL to flywheel through
the grey areas).  You will need to replace the approximate ten lines
of clock with 20 lines of clock assembly, and provide a delay line and
a filter, which I can also help you with.  This was never an issue before
as we were outdancing the state machine clock recovery in the
TNC+TAPR/DEMOD with the clock in the modem (the 85C30 in the
AEA box was strobed at one per bit so was not involved in clock recovery).
Now I would like to see us do better than a zero crossing based
clock phase estimator (BLECCCHHH).  A straight port will involve
changing the interrupt service routines and the I/O addresses and
means from/by which samples are deliverd and received.

The second major area of improvement is that we should provide
some pulse shaping on the Manchester data ;-).

Bob


At 09:28 AM 10/07/1999 +0200, you wrote:
>Hi folks on this list,
>
>I'm looking for 400 and 1200 Bd BPSK modems and am wondering if any exists
>for the DSP56002EVM. I would be particularly interested in a 400 Bd modem
>for P3D telemetry, but a 1200 Bd modem for PacSat access will do fine.
>
>I have looked in the TAPR archives but I have the impression that some of
>the DSP56002EVM SW is located on other ftp servers.
>
>Best 73 de Bent/OZ6BL
>


---

You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 4. [dsp] Re: Are there any BPSK modems for the DSP56002EVM?

From: Johan Forrer <forrerj@peak.org>
Date: Thu, 7 Oct 1999 08:28:13 -0700 (PDT)
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-43776-1999.10.07-10.39.08--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Bent,

Yes there are two modems available; 400 and 1200 BPSK for the
EVM that are specifically for satellite use. Check out Doug's,
N1OWU EVM code package for the sources and executable code.
There may be other satellite enthuisiasts than can tell you a
bit more about using these.

I have Bob's, N4HY, code for the AEA2232 modems too. Perhaps,
with Bob's permission, I can make up a code package and
upload that to the TAPR DSP area? There are some interesting
ideas in there.

Hope that helps,

Johan, KC7WW

On Thu, 7 Oct 1999, Robert McGwier wrote:

> I have the original source code for my demods for DSP56001 that
> were used by AEA.  Any serious programmer of the EVM should be
> able to port.  I have just gotten all the parts together as of the TAPR
> meeting to put together my EVM in a box.  If another will step forward,
> I will provide MINIMAL advice/support.  I am very busy and will be
> traveling for work for the next month so do not expect much help
> porting this.  Johan also has the source and this transfer was done
> with Timewave approval. There are a few areas I would make improvements,
> the first and most important is in the area of the clock recovery.  We
> can make a big time improvement in that area.  All of my code is in
> assembler, so you will need to read DSP56001 assembler.  I can give you
> the improvement in C.  I am extremely busy and will be on the
> road for work for a bit so this will of necessity have to be done without
> a lot of help form me.
>
> The improvement involves generating a better clock tone generation
> followed by a phase estimator for the clock (PLL to flywheel through
> the grey areas).  You will need to replace the approximate ten lines
> of clock with 20 lines of clock assembly, and provide a delay line and
> a filter, which I can also help you with.  This was never an issue before
> as we were outdancing the state machine clock recovery in the
> TNC+TAPR/DEMOD with the clock in the modem (the 85C30 in the
> AEA box was strobed at one per bit so was not involved in clock recovery).
> Now I would like to see us do better than a zero crossing based
> clock phase estimator (BLECCCHHH).  A straight port will involve
> changing the interrupt service routines and the I/O addresses and
> means from/by which samples are deliverd and received.
>
> The second major area of improvement is that we should provide
> some pulse shaping on the Manchester data ;-).
>
> Bob
>
>
> At 09:28 AM 10/07/1999 +0200, you wrote:
> >Hi folks on this list,
> >
> >I'm looking for 400 and 1200 Bd BPSK modems and am wondering if any exists
> >for the DSP56002EVM. I would be particularly interested in a 400 Bd modem
> >for P3D telemetry, but a 1200 Bd modem for PacSat access will do fine.
> >
> >I have looked in the TAPR archives but I have the impression that some of
> >the DSP56002EVM SW is located on other ftp servers.
> >
> >Best 73 de Bent/OZ6BL
> >
>
>

> ---
> You are currently subscribed to dsp as: FORRERJ@PEAK.ORG
> To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
>
>

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 5. [dsp] Re: Are there any BPSK modems for the DSP56002EVM?

From: Robert McGwier <rwmcgwier@home.com>
Date: Thu, 07 Oct 1999 16:50:37 -0400
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-43828-1999.10.07-16.02.23--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Please, Johan, by all means. We really do need to work
on the clock recovery and after you put that up, I will
post how to make the upgrades.

We can perhaps take the best of all these worlds and
roll them into one. Sometimes my comments to
myself in my source code can be offensive. Edit
that before you upload it.

Bob

At 08:28 AM 10/07/1999 -0700, you wrote:
>Bent,
>
>Yes there are two modems available; 400 and 1200 BPSK for the
>EVM that are specifically for satellite use. Check out Doug's,
>N1OWU EVM code package for the sources and executable code.
>There may be other satellite enthuisiasts than can tell you a
>bit more about using these.
>
>I have Bob's, N4HY, code for the AEA2232 modems too. Perhaps,
>with Bob's permission, I can make up a code package and
>upload that to the TAPR DSP area? There are some interesting
>ideas in there.
>
>Hope that helps,
>
>Johan, KC7WW
>
>
>
>On Thu, 7 Oct 1999, Robert McGwier wrote:
>
>> I have the original source code for my demods for DSP56001 that
>> were used by AEA. Any serious programmer of the EVM should be
>> able to port. I have just gotten all the parts together as of the TAPR
>> meeting to put together my EVM in a box. If another will step forward,
>> I will provide MINIMAL advice/support. I am very busy and will be
>> traveling for work for the next month so do not expect much help
>> porting this. Johan also has the source and this transfer was done
>> with Timewave approval. There are a few areas I would make improvements,
>> the first and most important is in the area of the clock recovery. We
>> can make a big time improvement in that area. All of my code is in
>> assembler, so you will need to read DSP56001 assembler. I can give you
>> the improvement in C. I am extremely busy and will be on the
>> road for work for a bit so this will of necessity have to be done without
>> a lot of help form me.
>>
>> The improvement involves generating a better clock tone generation
>> followed by a phase estimator for the clock (PLL to flywheel through
>> the grey areas). You will need to replace the approximate ten lines
>> of clock with 20 lines of clock assembly, and provide a delay line and
>> a filter, which I can also help you with. This was never an issue before
>> as we were outdancing the state machine clock recovery in the
>> TNC+TAPR/DEMOD with the clock in the modem (the 85C30 in the
>> AEA box was strobed at one per bit so was not involved in clock recovery).
>> Now I would like to see us do better than a zero crossing based
>> clock phase estimator (BLECCCHHH). A straight port will involve
>> changing the interrupt service routines and the I/O addresses and

>> means from/by which samples are deliverd and received.
>>
>> The second major area of improvement is that we should provide
>> some pulse shaping on the Manchester data ;-).
>>
>> Bob
>>
>>
>> At 09:28 AM 10/07/1999 +0200, you wrote:
>> >Hi folks on this list,
>> >
>> >I'm looking for 400 and 1200 Bd BPSK modems and am wondering if any exists
>> >for the DSP56002EVM. I would be particularly interested in a 400 Bd modem
>> >for P3D telemetry, but a 1200 Bd modem for PacSat access will do fine.
>> >
>> >I have looked in the TAPR archives but I have the impression that some of
>> >the DSP56002EVM SW is located on other ftp servers.
>> >
>> >Best 73 de Bent/OZ6BL
>> >
>>
>>
>> ---
>> You are currently subscribed to dsp as: FORRERJ@PEAK.ORG
>> To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
>>
>>
>
>
>---
>You are currently subscribed to dsp as: RWMCGWIER@HOME.COM
>To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org


---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 6. [dsp] Re: Are there any BPSK modems for the DSP56002EVM?

From: Douglas Braun <doug.braun@intel.com>
Date: Thu, 07 Oct 1999 20:26:47 -0400
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-43975-1999.10.07-19.42.12--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

My ISP changed my Web page address recently.
The correct address for my Web page with the most up-to-date
software is:  http://users.rcn.com/dougbert

Doug
N1OWU

At 11:28 AM 10/7/99 , you wrote:
>Bent,
>
>Yes there are two modems available; 400 and 1200 BPSK for the
>EVM that are specifically for satellite use. Check out Doug's,
>N1OWU EVM code package for the sources and executable code.
>There may be other satellite enthuisiasts than can tell you a
>bit more about using these.
>
>I have Bob's, N4HY, code for the AEA2232 modems too. Perhaps,
>with Bob's permission, I can make up a code package and
>upload that to the TAPR DSP area? There are some interesting
>ideas in there.
>
>Hope that helps,
>
>Johan, KC7WW


---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 7. [dsp] N4HY DSP modem codes available

From: Johan Forrer <forrerj@PEAK.ORG>
Date: Fri, 8 Oct 1999 09:32:13 -0700 (PDT)

To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-44063-1999.10.08-11.43.14--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi folks,

To let you know that Tim has moved Bob's code package
to the DSP download area. Look for it at:

ftp://ftp.tapr.org/dsp/Motorola/dsp56001/dsp2232/n4hy.zip

What it is:
-----------

A substantial collection of various FSK, PSK, and other FAX-like
DSP modem source code that was developed by Bob McGwier, N4HY
for the AEA DSP2232 family modems. This code package is made
available to the amateur community with the blessings of
Timewave, who now manufacture, sells, and supports AEA
DSP2232 modems.

As always, the disclaimer: What you see is what you get.
There is no warranty -- use at your own risk, but we
welcome and encourages folks to share experiences and
efforts so that we can all learn something along the way.

Thanks to Bob and Timewave!

Enjoy.

Johan, KC7WW

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 8. [dsp] Re: Are there any BPSK modems for the DSP56002EVM?

From: Douglas Braun <doug.braun@intel.com>
Date: Fri, 08 Oct 1999 12:13:23 -0400
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-44068-1999.10.08-12.09.28--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

It wouldn't be a bad idea to have two different PSK modems available.
It would allow people to learn more by comparing them, and
possibly making an improved hybrid version...

Doug Braun
N1OWU

At 11:28 AM 10/7/99 , Johan Forrer wrote:
>Bent,
>
>Yes there are two modems available; 400 and 1200 BPSK for the
>EVM that are specifically for satellite use. Check out Doug's,
>N1OWU EVM code package for the sources and executable code.
>There may be other satellite enthuisiasts than can tell you a
>bit more about using these.
>
>I have Bob's, N4HY, code for the AEA2232 modems too. Perhaps,
>with Bob's permission, I can make up a code package and
>upload that to the TAPR DSP area? There are some interesting
>ideas in there.
>
>Hope that helps,
>
>Johan, KC7WW

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 9. [dsp] Fwd: [hfsig] Re: N4HY DSP modem codes available

From: Robert McGwier <rwmcgwier@home.com>
Date: Fri, 08 Oct 1999 20:02:14 -0400
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-44091-1999.10.08-19.14.08--lyris.dsp#tapr.org@lists.tapr.org>

Rendered body type: text/plain

>
>I suggest that as we the community make new developments,
>we do our best to keep Timewave informed.  They
>have been most gracious.  Some of this code is great,
>some of it stinks.  Please do not hold back if you find
>a better way to do things.  I urge the porting of this code
>to the EVM56002 as well as modification for use on
>other platforms.
>
>Bob
>
>
>
>
>At 09:32 AM 10/08/1999 -0700, you wrote:
>>Hi folks,
>>
>>To let you know that Tim has moved Bob's code package
>>to the DSP download area. Look for it at:
>>
>>ftp://ftp.tapr.org/dsp/Motorola/dsp56001/dsp2232/n4hy.zip
>>
>>What it is:
>>-----------
>>
>>A substantial collection of various FSK, PSK, and other FAX-like
>>DSP modem source code that was developed by Bob McGwier, N4HY
>>for the AEA DSP2232 family modems. This code package is made
>>available to the amateur community with the blessings of
>>Timewave, who now manufacture, sells, and supports AEA
>>DSP2232 modems.
>>
>>As always, the disclaimer: What you see is what you get.
>>There is no warranty -- use at your own risk, but we
>>welcome and encourages folks to share experiences and
>>efforts so that we can all learn something along the way.
>>
>>Thanks to Bob and Timewave!
>>
>>Enjoy.
>>
>>Johan, KC7WW
>>
>>
>>---
>>You are currently subscribed to hfsig as: RWMCGWIER@HOME.COM
>>To unsubscribe send a blank email to leave-hfsig-3408X@lists.tapr.org
>
>
>---
>You are currently subscribed to hfsig as: RWMCGWIER@HOME.COM
>To unsubscribe send a blank email to leave-hfsig-3408X@lists.tapr.org


---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 10. [dsp] Lest there be a misunderstanding

From: Robert McGwier <rwmcgwier@home.com>
Date: Fri, 08 Oct 1999 20:07:13 -0400
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-44093-1999.10.08-19.19.05--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Just in case someone (Harold F) misunderstands,
this code does not include my recent work on
FS1052.  The work mentioned by Johan  is 10 year
old work I did for the various AEA Packratt's.

The work on the FS1052 stuff continues to move
forward.  Paperwork to make sure no proprietary
materials from my company are involved was
submitted today.  The document source will
follow that to the same place and then we'll
be making another announcement.

(FS1052 == Mil Std 188-111A, the work

discussed here is A1 and NOT A3).

Bob

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 11. [dsp] Re: Fwd: [hfsig] Re: N4HY DSP modem codes available

From: TBaggett@AustinTX.net (Tim Baggett)
Date: Fri, 8 Oct 1999 20:19:20 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-44098-1999.10.08-20.20.36--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>I suggest that as we the community make new developments,
>we do our best to keep Timewave informed.  They
>have been most gracious.  Some of this code is great,
>some of it stinks.  Please do not hold back if you find
>a better way to do things.  I urge the porting of this code
>to the EVM56002 as well as modification for use on
>other platforms.
>
>Bob

I'll throw in my random two cents....

Bob, I certainly agree with you. Although some may take issue with the amateur community writing/enhancing code that may in the future go back into products, I personally think it is in our best interests.

*IF*, and I repeat *IF*, the amateur community enhances and adds to this modem code made available by Timewave, and we share it with them, we open doors for future DSP modems by this company. We all win, in the situation that hams produce the code that they want, they may get a nice user friendly modem box form a manufacturer rather than an experimenters EVM, and they make some money selling them.

I tend to relate it to the GNU/Linux community. It is all freely available, and anyone can add to it. But, it all goes back into other companies (Red Hat, etc.) that turn it into a product. I really think this is a good model for software.

If we develop the code, and a manufacturer uses it we all win.

Thanks for your work in obtaining Timewave's approval, Bob.

73,
Tim
AA5DF

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 12. [dsp] Re: Are there any BPSK modems for the DSP56002EVM?

From: Bill Vodall <wa7nwp@bigsky.com>
Date: Sun, 10 Oct 1999 18:32:55 -0700 (PDT)
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-44341-1999.10.10-20.44.40--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>
> My ISP changed my Web page address recently.
> The correct address for my Web page with the most up-to-date
> software is:  http://users.rcn.com/dougbert
>
> Doug
> N1OWU

I'm (finally) working on getting the EVM in a TAPR box running here as my modem for the Wetnet 9k6 network.  As usual, it's been a bit of a challenge and a learning experience.  The challenge continues (it doesn't work yet) so here's the place to get help.

I'll list what I think I've learned.  And what I "think" I've learned.

First,  I discovered the archives at TAPR are dated.  The latest
and greatest software is at Doug's site listed above.

I'm using the debugger to first load BIOS2.ASM, then load FSK.ASM
followed by a "GO 0".

FSK1200.ASM is a similar 1200 baud modem.

To burn the modem in Flash RAM,  I load BIOS2.ASM, the modem, FSK.ASM,
then FLSHBOOT.ASM and "Go 3400".

The configuration is set in "Leonid.asm".  I discovered it had the
68Mhz clock defined.  Standard for the EVM is 40Mhz.  I changed that.

Standard RS232 rate for the EVM is 19k2.

The ONcE port is for programming.  The "other" port is used for
actual operation.

So far so good.  Now the trouble starts.

Modem seems to be working.  Power on causes the PTT light to blink
and the PTT line on the Radio-2 connector follows the light.

I think a good first step is to confirm that a KISS transmit packet
from NOS should force the PTT line and light to activate.  No luck
with that yet.  Using FSK1200, the amber light twitters with the Kiss
packet.

Am I right in assuming that since the PTT on the Radio 2 port is
active, that's the port that's used by default in the TAPR setup?

My second step in getting this working was to feed speaker audio
from a Kenwood rig to the RxA input on Radio 2 port.  I'm hoping to
see the DCD light blink and some KISS packets show up.  Nothing
yet.

If I'm not too far off on when I've been doing, it might be time
to check out the EVM and TAPR box setup a bit.  There could very
easily be a missing jumper or crossed wire somewhere.

Thanks for any advice and suggestions.

73,
Bill - WA7NWP
wa7nwp@wetnet-mafia.org

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 13. [dsp] Re: Are there any BPSK modems for the DSP56002EVM?

From: "PAT McGRATH" <patricio@cyberg8t.com>
Date: Sun, 10 Oct 1999 21:34:35 -0700
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-44352-1999.10.10-23.46.09--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Mine also have the 68Mhz defined. What is used to determine the clock?
The Xtal in mine label Y3 is MMD246CK. What xtal frequency is this?

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 14. [dsp] Re: Are there any BPSK modems for the DSP56002EVM?

From: TBaggett@AustinTX.net (Tim Baggett)
Date: Mon, 11 Oct 1999 09:27:03 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>

Message-ID: <LYR3532-44398-1999.10.11-09.27.25--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>Mine also have the 68Mhz defined. What is used to determine the clock?
>The Xtal in mine label Y3 is MMD246CK. What xtal frequency is this?

You have to look at the DSP itself. Look at the last number in the part number. It should be 40, 66, or 80 (perhaps higher now). This is the clock frequency at which the DSP was tested and verified to pass Motorola's tests. You may be able to get the DSP to run faster (I've had several 66 MHz DSPs running at 100 MHz), but be warned that any anomolies you may see could be due to the higher clock rate.

The crystal  on the EVM that drives the DSP is 16.8 MHz I believe. The internal DSP PLL will divide & multiply this base crystal clock up to the internal operating clock. This is what you are setting in the leonid.asm.

73,
Tim AA5DF

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 15. [dsp] Re: Are there any BPSK modems for the DSP56002EVM?

From: "PAT McGRATH" <patricio@cyberg8t.com>
Date: Mon, 11 Oct 1999 11:04:25 -0700
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-44435-1999.10.11-13.16.33--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Tim

Thanks for the reply and info.
On my DSP I see "DSP56002FC66"
with "3J40C" below.

Is this a 66Mhz Xtal?

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 16. [dsp] Re: Are there any BPSK modems for the DSP56002EVM?

From: Douglas Braun <doug.braun@intel.com>
Date: Mon, 11 Oct 1999 15:32:57 -0400
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-44444-1999.10.11-14.45.00--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 09:32 PM 10/10/99 , you wrote:

>The configuration is set in "Leonid.asm".  I discovered it had the
>68Mhz clock defined.  Standard for the EVM is 40Mhz.  I changed that.

I always used 68 MHz, since my EVM has a 66 MHz chip.  But
I bet most programs will work fin at 40 MHz...

>Modem seems to be working.  Power on causes the PTT light to blink
>and the PTT line on the Radio-2 connector follows the light.

The start-up code shouldn't touch the PTT lines!  Maybe you have
a wiring error somewhere?

>I think a good first step is to confirm that a KISS transmit packet
>from NOS should force the PTT line and light to activate.  No luck
>with that yet.  Using FSK1200, the amber light twitters with the Kiss
>packet.

Also sounds like a wiring mistake.

>Am I right in assuming that since the PTT on the Radio 2 port is
>active, that's the port that's used by default in the TAPR setup?

The programs that I distribute generally use the LEFT channel (Radio 1).
My hardware setup is like this:

Left input and PTT: VHF radio
Right input and PTT: HF radio
Left output:  Both radios
Right output: speaker

When in doubt, look at the actual source code for "Left" and/or "Right" symbol
definitions that control the channel selection.

>My second step in getting this working was to feed speaker audio
>from a Kenwood rig to the RxA input on Radio 2 port.  I'm hoping to
>see the DCD light blink and some KISS packets show up.  Nothing
>yet.
>
>If I'm not too far off on when I've been doing, it might be time
>to check out the EVM and TAPR box setup a bit.  There could very
>easily be a missing jumper or crossed wire somewhere.

I think you are right.

Doug N1OWU

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 17. [dsp] Re: Are there any BPSK modems for the DSP56002EVM?

From: Douglas Braun <doug.braun@intel.com>
Date: Mon, 11 Oct 1999 15:37:26 -0400
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-44445-1999.10.11-14.49.26--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 12:34 AM 10/11/99 , you wrote:
>Mine also have the 68Mhz defined. What is used to determine the clock?
>The Xtal in mine label Y3 is MMD246CK. What xtal frequency is this?


The 56002 chip has internal registers that control a clock prescaler
and PLL circuit.  The actual crystal frequency is less then 68 MHz,
I think.

After reset, the clock registers are set to give a default, slow clock frequency.
The start-up code in BIOS2.ASM resets the registers to the desired values.
The 56002 manual from Motorola (which you hopefully got with your EVMs)
explains all this, but if you are not an electrical engineer or experienced
microprocessor programmer, it may be tough reading...

Doug Braun
N1OWU

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 18. [dsp] Re: Are there any BPSK modems for the DSP56002EVM?

From: TBaggett@AustinTX.net (Tim Baggett)
Date: Mon, 11 Oct 1999 22:40:03 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-44501-1999.10.11-22.40.20--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>Thanks for the reply and info.
>On my DSP I see "DSP56002FC66"
>with "3J40C" below.
>
>Is this a 66Mhz Xtal?


Hi Pat,

This is a DSP rated to work at speeds up to 66 MHz, yes (actually you probably
can get it to work higher than that). The Xtal on the board is still 16.8 MHz.

The DSP's internal PLL takes the 16.8 MHz clock and derives it's internal clock
(the 66 MHz) from that.

73,
Tim

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 19. [dsp] Re: Are there any BPSK modems for the DSP56002EVM?

From: Tomi Manninen OH2BNS <tpm@prkele.tky.hut.fi>
Date: Tue, 12 Oct 1999 11:31:19 +0300 (EETDST)
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-44552-1999.10.12-03.43.19--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Mon, 11 Oct 1999, Tim Baggett wrote:

> This is a DSP rated to work at speeds up to 66 MHz, yes (actually you
> probably can get it to work higher than that). The Xtal on the board
> is still 16.8 MHz. The DSP's internal PLL takes the 16.8 MHz clock and
> derives it's internal clock (the 66 MHz) from that.

Ok, to confuse people even more, I throw my 0.02e in at this point...

My memory seems to suggest that the crystal (or actually in most EVM
units a ceramic resonator) used to clock the CPU is 4 MHz. The CPU has a
PLL based multiplier to get the desired internal clock frequency.

That is also the reason you can't set the CPU clock to exactly 66MHz, the
nearest integer multipliers give you 64 or 68 MHz.

The other possibility is that my memory is failing and am actually talking
about something completely different...

PS. The 16.something MHz crystal is used to clock the CODEC, no?
--
--- Tomi Manninen / Tomi.Manninen@hut.fi / OH2BNS @ OH2RBI.FIN.EU ---

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 20. [dsp] Re: Are there any BPSK modems for the DSP56002EVM?

From: TBaggett@AustinTX.net (Tim Baggett)
Date: Tue, 12 Oct 1999 08:50:01 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-44572-1999.10.12-08.50.06--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Tomi,

>My memory seems to suggest that the crystal (or actually in most EVM
>units a ceramic resonator) used to clock the CPU is 4 MHz. The CPU has a
>PLL based multiplier to get the desired internal clock frequency.
>
>That is also the reason you can't set the CPU clock to exactly 66MHz, the
>nearest integer multipliers give you 64 or 68 MHz.

The DSP PLL also contains divider registers. Check the PLL chapter of the
DSP56002 manual for the real answer, but I believe the equation is something
like:

$$DSP\_CLK = \frac{XTAL * MF}{2 * DF * LPD}$$

MF - PLL Multiplier value
DF - DF   Divider Value
LPD - Low power divider   (used to slow the DSP clock way down in when you
don't have any processing to do, and want to suck minimal power)

>PS. The 16.something MHz crystal is used to clock the CODEC, no?

Yes, actually, it may be a bit higher than 16 - I can't remember. But I was
wrong yesterday when I said that the DSP PLL was clocked by a 16.28 crystal -
it is actually a 4.00 MHz crystal. So, there are two on the 56002EVM: One for
the CODEC, and one for the DSP.

73,
tim

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 21. [dsp] Uploading of code via Host Port

From: "Johann Lochner" <lochner@firga.sun.ac.za>
Date: Tue, 12 Oct 1999 20:23:14 +0200
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-44607-1999.10.12-13.37.37--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi folks,

We're working on a more rigorous procedure for uploading code through
the Host Port of the DSP56002 on board the Sunsat micro satellite.
Until now there was a quick and dirty way for getting a couple of small
test programs uploaded, but for serious programming it is hopelessly
inadequate.

To upload the code to the correct memory locations the host processor
needs to interpret the assembler's output file format.  It produces
.cld files which can be converted to .lod files by an executable
distributed along with the EVM.  In the Assembler Reference Manual
(available on the Internet), only Motorola's adaptation of the COFF
format is explained.  Where can I find specifications for either the
.cld of .lod files?

In the DSP56002 User Manual (Appendix A) a listing of the bootstrap
code is given.  The memory position for the ORG directive is quite
unknown to me: ORG PL:$0,PL:$0.  I can't find any references to a PL
memory space.  Any ideas?

Regards,
Johann

+-----------------------------------------------+
  JG Lochner  ESL, Universiteit van Stellenbosch
  e-pos:      lochner@firga.sun.ac.za
  webtuiste:  http://esl.ee.sun.ac.za/~lochner
+-----------------------------------------------+

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 22. [dsp] Re: Uploading of code via Host Port

From: Jake Janovetz <janovetz@tempest.ece.uiuc.edu>
Date: Tue, 12 Oct 1999 15:44:48 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-44615-1999.10.12-16.04.03--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Howdy,

   First of all, the Motorola development kit which is available
on the web for free has this information in it.  Basically, there
are sample programs that allow you to read/rewrite the .cld/.lod
files.
   Also, I have code written to do what you're talking about for
a board I built (with 56302's on it -- same idea).  You can
retrieve the source from my home page:

   http://tempest.ece.uiuc.edu/~janovetz
     Go to: My Erithacus CVS Repository
     Go to:   src/cpu/ece363

   The file 'dsp.c' contains code to read .cld files and download
them to the DSP.  At the very least, it may help a bit.

(oh, by the way, PL: is the memory space allocated for the
internal program memory)

Cheers,
Jake

On Tue, Oct 12, 1999 at 08:23:14PM +0200, Johann Lochner wrote:
> Hi folks,
>
> We're working on a more rigorous procedure for uploading code through
> the Host Port of the DSP56002 on board the Sunsat micro satellite.
> Until now there was a quick and dirty way for getting a couple of small
> test programs uploaded, but for serious programming it is hopelessly
> inadequate.
>
> To upload the code to the correct memory locations the host processor
> needs to interpret the assembler's output file format. It produces
> .cld files which can be converted to .lod files by an executable
> distributed along with the EVM. In the Assembler Reference Manual
> (available on the Internet), only Motorola's adaptation of the COFF
> format is explained. Where can I find specifications for either the
> .cld of .lod files?
>
> In the DSP56002 User Manual (Appendix A) a listing of the bootstrap
> code is given. The memory position for the ORG directive is quite
> unknown to me: ORG PL:$0,PL:$0. I can't find any references to a PL
> memory space. Any ideas?
>
> Regards,
> Johann
>
> +-----------------------------------------------+
> JG Lochner ESL, Universiteit van Stellenbosch
> e-pos: lochner@firga.sun.ac.za
> webtuiste: http://esl.ee.sun.ac.za/~lochner
> +-----------------------------------------------+
>
> ---
> You are currently subscribed to dsp as: JANOVETZ@UIUC.EDU
> To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

--
janovetz@uiuc.edu | How can it be that mathematics, being after all a
University of Illinois | product of human thought independent of experience,
| is so admirably adapted to the objects of reality?
PP-ASEL | - Albert Einstein

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 23. [dsp] Re: Uploading of code via Host Port

From: Johan Forrer <forrerj@peak.org>
Date: Tue, 12 Oct 1999 15:14:48 -0700 (PDT)
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-44658-1999.10.12-17.26.50--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Johann,

There are two programs floating around that can download
directly to the EVM via the SCI port:
"DL" uses .LOD, and "PLXBOOT" that uses .CLD's.

"DL" was written by the Alef Nul group, and
you will find an updated version of DL in N1OWU's code collection
(host code is in C).
"PLXBOOT" is by Peter Martinez and is in some of his (G3PLX)
code collections (host code is in Delphi/TPascal.)

Thes packages contain source code that shows how to do it
on both the host side also on the 56K side. It would be well
worth your time to have a look at the PLXBOOT 56K-side program
for some very clever tricks.

If you cannot find these, let me know and I will search through
my code collections and e-mail you.

Regards,

Johan Forrer, KC7WW


On Tue, 12 Oct 1999, Johann Lochner wrote:

> Hi folks,
>
> We're working on a more rigorous procedure for uploading code through
> the Host Port of the DSP56002 on board the Sunsat micro satellite.
> Until now there was a quick and dirty way for getting a couple of small
> test programs uploaded, but for serious programming it is hopelessly
> inadequate.
>
> To upload the code to the correct memory locations the host processor
> needs to interpret the assembler's output file format.  It produces
> .cld files which can be converted to .lod files by an executable
> distributed along with the EVM.  In the Assembler Reference Manual
> (available on the Internet), only Motorola's adaptation of the COFF
> format is explained.  Where can I find specifications for either the
> .cld of .lod files?
>
> In the DSP56002 User Manual (Appendix A) a listing of the bootstrap
> code is given.  The memory position for the ORG directive is quite
> unknown to me: ORG PL:$0,PL:$0.  I can't find any references to a PL
> memory space.  Any ideas?
>
> Regards,
> Johann
>
> +-----------------------------------------------+
>   JG Lochner  ESL, Universiteit van Stellenbosch
>   e-pos:      lochner@firga.sun.ac.za
>   webtuiste:  http://esl.ee.sun.ac.za/~lochner
> +-----------------------------------------------+
>
> ---
> You are currently subscribed to dsp as: FORRERJ@PEAK.ORG
> To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
>
>


---
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To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 24. [dsp] DSP-93 still lives?

From: "Julio Morais" <py4lf@amsat.org>
Date: Tue, 12 Oct 1999 21:30:37 -0300
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-44660-1999.10.12-18.43.25--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello dear friends! Anybody using DSP-93 to exchange some mails?!
Best 73´s!
Julio
py4lf@amsat.org

## 25. [dsp] Re: Uploading of code via Host Port

From: TBaggett@AustinTX.net (Tim Baggett)
Date: Tue, 12 Oct 1999 21:56:57 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-44688-1999.10.12-21.56.55--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Johann,

I'll make an attempt to answer your question:

> In the DSP56002 User Manual (Appendix A) a listing of the bootstrap
> code is given.  The memory position for the ORG directive is quite
> unknown to me: ORG PL:$0,PL:$0.  I can't find any references to a PL
> memory space.  Any ideas?


First, realize that the assembler uses a counter for each memory space. As it

assembles instructions, it will place the opcode in the memory location pointed to by the P counter, and increments it by one. The ORG instruction directs the assembler to initialize the memory counter with a specific value. There is one default counter for each the P, X, Y, and L memory spaces.

Now, let's take that a step farther and consider that each memory space can have TWO counters. Let's call them a 'high' counter and a 'low' counter. Let's abbreviate the high counter with an H, and the low counter with an L. Each high and low counter will operate independent of all the other counters as mentioned in the paragraph above. So, now we have the following memory location counters: PH, PL, XH, XL, YH, YL, LH, LL.

Why do this? Well, you may if you are doing some advances assembly. Even while working at Motorola in the DSP group, I think I rarely used them. However, Here's an example:

```
; Let's chose the P memory Low counter, and initialize it to $1000
 ORG PL:$1000
 nop;                        ; assembles to location P:$1000
 nop;                        ; assembles to location P:$1001
 nop;                        ; assembles to location P:$1002

; Now, let's chose the P memory High counter, and initialize to $2000
 ORG PH:$1000
 nop;                        ; assembles to location P:$2000
 nop;                        ; assembles to location P:$2001
 nop;                        ; assembles to location P:$2002

;Let's return to the P memory Low counter, but don't initialize it -
; leave the counter pointing to where it was last used
 ORG PL:
 nop;                        ; assembles to location P:$1003
 nop;                        ; assembles to location P:$1004
```

It allows you to switch back and forth between assembling instructions in two different areas of the same memory space.

Now, about that ORG PL:$0,PL:$0 .... Why are there TWO memory spaces listed in this ORG statement? Actually, this directive is the same as just ORG PL:$0 since both operands are the same, but it doesn't have to be this way.

For the sake of example, consider this instead: ORG PL:$0,PL:$1000

The first part of the ORG directive (the PL:$0) is known as the runtime counter. This is the P memory Low counter that will be used to point to the next P memory space for instructions during assembly. This is where the instructions will actually be located in P memory when they are executed.

The second part of the ORG directive (the PL:$1000) is the load time counter. This is where the instructions will be assembled and stored into memory when they are loaded, but not executed.

Perhaps another example is needed. Many times your DSP program is contained in an EPROM way up in high P memory, but you want it moved into internal (low) P memory when it executes faster, without the wait states that would be associated with executing out of EPROM.

If we write a simple program that will be located in out fictional EPROM at p:$1000 such as:

```
 ORG P:$1000
 nop                     ; Assembles into P:$1000
 jmp   LABEL     ; Assembles into P:$1001 and $1002
 nop                     ; Assembles into P:$1003
LABEL: nop       ; Assembles into P:$1004
```

The instruction JMP LABEL will actually assemble into a JMP to a fixed location - P:$1004. Looks like it works fine here, but now let's move the actual assembled instructions down to P:$0000 where we really want it to execute. Whoa, the JMP LABEL is still going to look like JMP P:$1004 - back into our fictional EPROM area! 56002 DSP code is NOT position independent (unless you go to some real great pains!)

If we rewrite our above code using a different ORG statement to use the runtime and loadtime counters for P memory, we can accomplish this task:

```
; runtime P:$0000, Loadtime p:$1000
 ORG P:$0000,P:$1000
```

```
 nop                    ; Assembles into P:$1000
 jmp   LABEL      ; Assembles into P:$1001 and $1002
 nop                    ; Assembles into P:$1003
LABEL: nop        ; Assembles into P:$1004
```

This example code snippet will cause the JMP LABEL instruction to become a JMP p:$0004. The assembler assembles each instruction as if it were using the runtime counter, so jmps and jsrs will be correct, but it will generate an output file with these instructions actually residing at the loadtime counter.

The way we currently program the FLASH on the 56002EVM is to load our program into P memory where we normally execute it. Then we load the flash programmer program into RAM at another location. the flash programmer copies our program from where it normally executes in P memory into the FLASH in high P memory. Since you cannot do this with an EPROM in other applications, and it EPROMS must be programmed on a special EPROM programming station, we use the runtime/loadtime counters in the ORG statements to generate a program object file that contains the code at a specific location, but will run at another location.

Hope this helps!

73,
Tim AA5DF

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 26. [dsp] RE: DSP-93 still lives?

From: Bent Bagger <bbagger@dscc.dk>
Date: Wed, 13 Oct 1999 09:13:36 +0200
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-44732-1999.10.13-02.31.29--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Oh yes it does. We use it 24 hours a day, 7 days a week as part of the OZ7SAT automatic ground station. At the moment we use it for the 9600 Bd satellites, but we have previously also used it for the 1200 Bd birds. It works very well both for upload and for download, but it is somewhat hard to make it lock on the proper carrier @ 1200 Bd.

On behalf of the OZ7SAT group,

Best 73 de Bent/OZ6BL
(also oz6bl@amsat.org)

-----Original Message-----
From: Julio Morais [mailto:py4lf@amsat.org]
Sent: 13. oktober 1999 02:31
To: TAPR DSP Special Interest Group
Subject: [dsp] DSP-93 still lives?

Hello dear friends! Anybody using DSP-93 to exchange some mails?!
Best 73´s!
Julio
py4lf@amsat.org <mailto:py4lf@amsat.org>

## 27. [dsp] Re: Uploading of code via Host Port

From: Olaf Mindermann <O.Mindermann@FH-Wolfenbuettel.DE>
Date: Wed, 13 Oct 1999 10:37:03 +0200
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-44733-1999.10.13-03.49.21--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Johann Lochner wrote:

> Hi folks,
>
> We're working on a more rigorous procedure for uploading code through
> the Host Port of the DSP56002 on board the Sunsat micro satellite.
> Until now there was a quick and dirty way for getting a couple of small

> test programs uploaded, but for serious programming it is hopelessly
> inadequate.
>
> To upload the code to the correct memory locations the host processor
> needs to interpret the assembler's output file format.  It produces
> .cld files which can be converted to .lod files by an executable
> distributed along with the EVM.  In the Assembler Reference Manual
> (available on the Internet), only Motorola's adaptation of the COFF
> format is explained.  Where can I find specifications for either the
> .cld of .lod files?
>
> In the DSP56002 User Manual (Appendix A) a listing of the bootstrap
> code is given.  The memory position for the ORG directive is quite
> unknown to me: ORG PL:$0,PL:$0.  I can't find any references to a PL
> memory space.  Any ideas?

Dear Johann,

as an attachment I send you a docu about the OMF format.
I hope it help. If you have interest in more details, I can send you some
sample code to upload programs containing data memory via hostport
bootstrap mode.

The class package supplied ba Motorola contains a cld2lod converter.
I find lod-files easier to read because of it's ascii oriented format.
And it is easier to pass with some simple C-program (IMHO) ;-)

Greetings
    Olaf Mindermann

University of Applied Sciences Wolfenbuettel
Digital Signal Processing Group
[Attachment: s6dspobj.pdf; application/pdf; 20,564 bytes]

## 28. [dsp] Re: Uploading of code via Host Port

From: Robert McGwier <rwmcgwier@home.com>
Date: Wed, 13 Oct 1999 07:11:26 -0400
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-44745-1999.10.13-06.23.40--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Johann:

In the materials uploaded by Johan to the TAPR ftp
site, there are two programs written by me for the
AEA DSP-x232 boxes.  They load via the host
port.  One loads in on chip memory, you follow
that with one that loads in off chip memory
so as to free all of on chip memory, which is usually
much higher speed ( reading two data values from
X,Y data memory, multiply, accumulate, increment
index registers is one instruction and all data moves
are done in parallel in on chip memory).  We
loaded everything through the host port.

Bob

At 03:14 PM 10/12/1999 -0700, you wrote:
>Johann,
>
>There are two programs floating around that can download
>directly to the EVM via the SCI port:
>"DL" uses .LOD, and "PLXBOOT" that uses .CLD's.
>
>
>Regards,
>
>Johan Forrer, KC7WW
>
>
>On Tue, 12 Oct 1999, Johann Lochner wrote:
>
>> Hi folks,
>>
>> We're working on a more rigorous procedure for uploading code through
>> the Host Port of the DSP56002 on board the Sunsat micro satellite.
>> Until now there was a quick and dirty way for getting a couple of small
>> test programs uploaded, but for serious programming it is hopelessly
>> inadequate.

>>
>> To upload the code to the correct memory locations the host processor
>> needs to interpret the assembler's output file format.  It produces
>> .cld files which can be converted to .lod files by an executable
>> distributed along with the EVM.  In the Assembler Reference Manual
>> (available on the Internet), only Motorola's adaptation of the COFF
>> format is explained.  Where can I find specifications for either the
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>>
>> In the DSP56002 User Manual (Appendix A) a listing of the bootstrap
>> code is given.  The memory position for the ORG directive is quite
>> unknown to me: ORG PL:$0,PL:$0.  I can't find any references to a PL
>> memory space.  Any ideas?
>>
>> Regards,
>> Johann
>>
>> +-----------------------------------------------+
>>   JG Lochner  ESL, Universiteit van Stellenbosch
>>   e-pos:      lochner@firga.sun.ac.za
>>   webtuiste:  http://esl.ee.sun.ac.za/~lochner
>> +-----------------------------------------------+
>>
>> ---
>> You are currently subscribed to dsp as: FORRERJ@PEAK.ORG
>> To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
>>
>>
>
>
>---
>You are currently subscribed to dsp as: RWMCGWIER@HOME.COM
>To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org


---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 29. [dsp] Freqs

From: Robert McGwier <rwmcgwier@home.com>
Date: Wed, 13 Oct 1999 09:22:49 -0400
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-44762-1999.10.13-08.35.08--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

For those of you with the Klingenfuss Publications, 1999
Superfrequency List, which is available from ARRL,
you can find the US Mil freqs, PRC HF MFA frequencies,
and several other MFA freqs etc. for FS1052 by looking for

USB Mil-Std-110A1 modem
or

LSB Mil-Std-110A1 modem

or MS110A1

in the modulation formats in the logs.  MFA stands for
Ministry of Foreign Affairs,  a bunch of the UNID stuff
is really interesting.  I highly recommend these CD's
for anyone planning on doing a lot of fooling around
on HF as they are a gold mine of information for the
developer, listener, etc.

Another way to find a boat load of the fancier HF
modems, including FS, Mil-Std, or Stanag modems,
and some proprietary modes as well, is to use
Charles PC-ALE program and find the

Mil-Std-141A ALE

signals which are used to initiate the follow on transfers.

I got a bunch of quesions following the audio upload and
this is note covers the most often asked one.

I apologize for not repeating the questions put to me.
I will go over the real audio and upload to these lists

my best recollection of what the questions were.

OOPS.

Bob

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 30. [dsp] Re: Uploading of code via Host Port

From: Douglas Braun <doug.braun@intel.com>
Date: Wed, 13 Oct 1999 08:47:12 -0400
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-44784-1999.10.13-10.59.34--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The program DL.EXE reads .lod files, so you could possibly modify
that program to do what you need.  You can get my version from <http://users.rcn.com/dougbert>.

At one point, Motorola's Web site had a package of C code
to manipulate .cld files.  (I think that .cld may actually
be a subset of COFF.)  Let me know if you cannot find the
package; I probably have a copy somewhere.

Doug Braun
N1OWU

At 02:23 PM 10/12/99 , Johann Lochner wrote:
>Hi folks,
>
>We're working on a more rigorous procedure for uploading code through
>the Host Port of the DSP56002 on board the Sunsat micro satellite.
>Until now there was a quick and dirty way for getting a couple of small
>test programs uploaded, but for serious programming it is hopelessly
>inadequate.

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 31. [dsp] DSP-10 2 meter transceiver September/October QST

From: Dan Schultz <n8fgv@amsat.org>
Date: Wed, 13 Oct 1999 16:28:30 -0400
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-44819-1999.10.13-15.40.37--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I am gathering parts to build the 2 meter DSP transceiver that is
described in the September and October QST. I already have about 10
people interested in this project, so we should be able to buy the parts
with some quantity price breaks. The bare PC boards are available for
$45 and I estimate the cost of parts to populate the PCB is around $140.
You will also need an Analog Devices EZ-Kit which is about $90, you can
get 10% off of that from Newark Electronics web site until October 15.

Please contact me at n8fgv@amsat.org before Friday if you want to go in
on this order.

Dan Schultz N8FGV

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 32. [dsp] RE: DSP-93 still lives?

From: "Julio Morais" <py4lf@amsat.org>
Date: Wed, 13 Oct 1999 21:20:51 -0300
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-44838-1999.10.13-18.54.28--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello Bent, tnx for reply my msg and I am very glad about your dsp93 news!
I left my QTH for 3 years, for a job for my company, just when I was starting my kit..hi! So, I return
for same QTH, not at same house, and now I must to stand up my antennas with G5400B rotor. I was working
 only at 1200 with a 2 meter FM tx and using a receiver converter for 440 mhz with a ts-440s.
I want to acquire some vhf/uhf allmode transceiver, probably the Icon 821h.what you say?

Bent, let me know also if the programs for DSP93 are the same or there are any news at TAPR diretory?!
Well, I´m very pleased for your help and I hoppe began my DSP93 tests very soon.
73´s my friend!

  ----- Original Message -----
  From: Bent Bagger
  To: TAPR DSP Special Interest Group
  Sent: Wednesday, October 13, 1999 4:13 AM
  Subject: [dsp] RE: DSP-93 still lives?

  Oh yes it does. We use it 24 hours a day, 7 days a week as part of the OZ7SAT automatic ground station. At the moment we use it for the 9600 Bd satellites, but we have previously also used it for the 1200 Bd birds. It works very well both for upload and for download, but it is somewhat hard to make it lock on the proper carrier @ 1200 Bd.

  On behalf of the OZ7SAT group,

  Best 73 de Bent/OZ6BL
  (also oz6bl@amsat.org)
    -----Original Message-----
    From: Julio Morais [mailto:py4lf@amsat.org]
    Sent: 13. oktober 1999 02:31
    To: TAPR DSP Special Interest Group
    Subject: [dsp] DSP-93 still lives?

    Hello dear friends! Anybody using DSP-93 to exchange some mails?!
    Best 73´s!
    Julio
    py4lf@amsat.org

## 33. [dsp] RE: DSP-93 still lives?

From: Bent Bagger <bbagger@dscc.dk>
Date: Thu, 14 Oct 1999 11:48:39 +0200
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-44888-1999.10.14-05.05.55--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Julio,

We use an Icom 821 so you will not be bad off if you get one of these. Also, we use the original files from tha TAPR repository - there hasn't been much development on the DSP-93 lately.

Best 73 de Bent/OZ6BL
(also oz6bl@amsat.org)

## 34. [dsp] DCC recap

From: Greg Jones <wd5ivd@tapr.org>
Date: Thu, 14 Oct 1999 13:03:39 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Cc: "HF SIG  list   mailing"<hfsig@tapr.org>, " Spread Spectrum "<ss@tapr.org>,
        " TAPR/AMSAT DSP "<dsp@tapr.org>,
        "APRS SIG  list   mailing"<aprssig@tapr.org>,
        "NETSIG  list   mailing"<netsig@tapr.org>,
        "BBS SIG  list   mailing"<bbssig@tapr.org>,
        " tacgps "<tacgps@tapr.org>, aprsnews@tapr.org, mic-e@tapr.org,
        TAPR Regional Freq <regional_freq@tapr.org>
Message-ID: <LYR3532-44934-1999.10.14-13.16.33--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

1999 ARRL and TAPR Digital Communications Conference
September 24-26, 1999
Phoenix, Arizona
Greg Jones, WD5IVD

Another grand Digital Communications Conference!  Special thanks go out to the workers at MARC for hosting locally and to PRUG for being our international co-host again.  Also, a very special thanks to Geoff Baehr, N6LXA, Chief Network Officer of Sun Microsystems, for attending and giving the dinner talk on Saturday.  Steve Stroh, N8GNJ, and Tina Stroh did an excellent job in working the arrangements with the hotel in Phoenix once it was selected.  Tina wasn't able to attend because they are in the midst of adopting a child.  Congratualtions to Tina and Steve.  Sheila Bible was a big help and will be working with Tina in the coming years to help coordinate the conferences as I take a lesser role in the conference.  As in the past, audio and photos from the conference will be available on the TAPR web site (http://www.tapr.org/dcc).

Next year's DCC will be hosted in Orlando, FL.  The date of the conference should be selected by the end of the year.

The conference started Friday afternoon with the third annual APRS National Symposium moderated by Steve Dimse, K4HG.  The symposium was full of talks and projects.  During the symposium yet another new mystery hardware project was discussed.  This years was a sneak preview provided by Kenwood to all those attending the DCC of their new mobile APRS equipped radio. The following people spoke at the APRS Symposium.

APRSdos and TrakNet update
        Bob Bruninga, WB4APR
MacAPRS/WinAPRS Update
        Keith Sproul, WU2Z
XAPRS
        Keith Sproul, WU2Z
APRS+SA Update
        Brent Hildebrant, KH2Z
Internet and APRS
        Steve Dimse, K4HG
WinCE version
        Rob Wittner, KZ5RW
Kenwood TH-D7 Tricks, Treats, and Tragedies
        Stan Horzepa, WA1LOU
Arizona APRS
        David McCarthy, KC7AYX
APRS ICQ
        Tom Schaefer, NY4I
Microcontrollers and APRS
        Steve Bible, N7HPR
APRS Working Group Update
        John Ackermann, N8UR

The Friday Technical Seminar on HDTV by Allen Finne, KB5SQK was cancelled at the last minute when Allen cound not attend.

Friday night saw the annual DCC social, which was sponsored by PRUG.  After the social, PRUG presented a technical paper highlighting their current development.  The papers focused on what had been happening with their prototype direct-sequence radio operating in the 2.4 GHz band.  This prototype appears to be very well designed from an experimentation point of view.

As with past years, Saturday was split into two strands -- a paper session and a session featuring selected topics.  As in previous years, the selected topic strand had fewer topics with more time to present.  Four selected topics were presented. Steve Bible, N7HPR, presented an introduction to PICs.  Guy Story, KC5GOI, presented an overview to APRS and discussed some of the latest happenings in the mode. Johan Forrer, KC7WW, did an overview and current status on HF communications.  Bob Nielsen, W6SWE, did a talk on the current status of Linux in the amateur community. Thanks to all the selected topic speakers for taking the time to present more in-depth materials during the DCC.

The paper sessions included the following talks:
Regulatory Issue and Update
        Dewayne Hendricks, WA8DZP
ARRL Technology Task Force & The Technology Working Group
        Rich Moseson, W2VU
Arizona Packet Radio, Past Present and Future
        Keith Justice, KF7TP & Dan Meredith, N7MRP
APRS Mic-Lite
        Bob Bruninga, WB4APR
APRS for X-Windows (Linux)
        Keith Sproul, WU2Z
Automatic Weather Bulletins via APRS
        Keith Sproul, WU2Z
APRS Generic Digipeating Satellites for HT and Mobile Satellite Communications
        Bob Bruninga, WB4APR
XML and APRS
        Steve Dimse, K4HG
APRN: Automatic Picture Relay Network and SSTV Picture Server
        Keith Sproul, WU2Z & Bob Bruninga, WB4APR
APRS Stand Alone Message Receiver
        Keith Sproul, WU2Z
Proposal for a Spread Spectrum Transponder Payload on the International Space Station

Matthew Ettus, N2MJI
UWB (Ultra Wide Band) Technology
Dewayne Hendricks, WA8DZP
Status Report on TAPR 900MHz SS Radio Project
Tom McDermott, N5EG
A Low-Cost HF Channel Simulator for Testing and Evaluating HF Digital Systems
Johan Forrer, KC7WW
(Non Technical) Lessons to be learned from the PSK31 Phenomena
Eduardo Jacob, EA2BAJ
A software Implementation for Federal Standard 1052 (Mil. Std. 188-110A HF Modems)
Robert McGwier, N4HY
A Practical Approach to Implementing HF Digital Voice in the Amateur Service
Charles Brain, G4GUO
HamWeb and HamStation
Dale Puckett, K0HYD

For the banquet speaker, we were very fortunate to have Geoff Baehr, N6LXA, Chief Network Officer of Sun Microsystems. Geoff gave a very interesting and thought-provoking talk on the future of the Internet and networking in general and gave some comments on the future of amateur radio. We were very fortunate to have Geoff attend the conference and much thanks goes to Dewayne Hendricks, WA8DZP, for helping arrange another good banquet talk.

The Sunday morning seminar was a more time-intensive version of last year's introductory session on PIC development. Steve Bible, N7HPR, Steve Dimse, K4HG, John Hansen, W2FS, and Byon Garrabrant, N6BG gave a 5 hour long seminar on PIC development and programming issues. They showed lots of interesting projects and answered a lot of questions from the audience.

Thanks to all those that I missed mentioning who helped with the DCC and I look forward to seeing you next year!


Tucson Amateur Packet Radio
8987-309 E Tanque Verde Rd #337 * Tucson, Az * 85749-9399
e-mail: tapr@tapr.org web: <http://www.tapr.org/>
ftp: ftp.tapr.org
phone: 940-383-0000 fax: 940-565-2544



---
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## 35. [dsp] WISP & DSP56002EVM

From: "PAT McGRATH" <patricio@cyberg8t.com>
Date: Thu, 14 Oct 1999 21:43:03 -0700
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-45005-1999.10.14-23.54.46--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Help

How to use the DSP56002EVM as a TNC with WISP?


---
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## 36. [dsp] Re: WISP & DSP56002EVM

From: Mike73@aol.com
Date: Fri, 15 Oct 1999 07:26:14 EDT
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-45065-1999.10.15-06.38.24--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

In a message dated 10/15/99 12:44:15 AM Eastern Daylight Time, patricio@cyberg8t.com writes:

> Help
>
> How to use the DSP56002EVM as a TNC with WISP?

Hi Pat,

Drop a note to W4SM@amsat.org Stacey is using the EVM with Wisp and has
written a help file about it.

73,
Mike, N1JEZ

---
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## 37. [dsp] Re: WISP & DSP56002EVM

From: "Mark L. Hammond" <hammond@surrealnet.net>
Date: Fri, 15 Oct 1999 10:20:44 -0400
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-45081-1999.10.15-09.34.32--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 09:43 PM 10/14/99 -0700, you wrote:

>Help
>
>How to use the DSP56002EVM as a TNC with WISP?

It's actually pretty simple.  General instructions below:

1) load the 9600 FSK code into your EVM

2) configure WISP to use a "TNC2" type of TNC in the setup.  Match the COM
port and speed (mine is 19200 as I recall), and it is ready.

73,


Mark L. Hammond  [KC4EBR]


---
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To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 38. [dsp] EVM Debugger and WIN98

From: "L. J. Shepherd" <ljs@west.net>
Date: Fri, 15 Oct 1999 19:13:18 -0700
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-45206-1999.10.15-21.25.48--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello Group,

I just installed WIN98 and have forgotten where to go for the newest update
file on the Debugger for the EVM.  I seem to recall that the disks Motorola
provided when we first got our EVM's was superceded later by some other
code ported to WIN95/98. If someone would please point me in the right
direction I would be most appreciative.

Thanks,    JIM  K6OYY     TAPR 502


---
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To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 39. [dsp] Re: EVM Debugger and WIN98

From: "Steven R. Bible" <srbible@gate.net>
Date: Sat, 16 Oct 1999 10:45:11 -0400
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-45269-1999.10.16-10.01.11--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Take a look in the Draft Operations Manual located at

   ftp://ftp.tapr.org/dsp/Motorola/dsp56002/evm56k/TAPR_evmri/

The URL for Domain Technologies is there plus a lot of other good
information.

- Steve


----- Original Message -----
From: L. J. Shepherd <ljs@west.net>
To: TAPR DSP Special Interest Group <dsp@lists.tapr.org>
Sent: Friday, October 15, 1999 10:13 PM
Subject: [dsp] EVM Debugger and WIN98


> Hello Group,
>
> I just installed WIN98 and have forgotten where to go for the newest
update
> file on the Debugger for the EVM.  I seem to recall that the disks
Motorola
> provided when we first got our EVM's was superceded later by some other
> code ported to WIN95/98. If someone would please point me in the right
> direction I would be most appreciative.
>
> Thanks,    JIM  K6OYY     TAPR 502
>
>
> ---
> You are currently subscribed to dsp as: SRBIBLE@GATE.NET
> To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
>
>


---
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## 40. [dsp] Re: EVM Debugger and WIN98

From: TBaggett@AustinTX.net (Tim Baggett)
Date: Sat, 16 Oct 1999 10:17:38 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-45272-1999.10.16-10.16.39--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Jim,

Domain Technologies web site is at: http://www.domaintec.com/

Click on software.


73,
Tim
[Attachment: smime.p7s; application/x-pkcs7-signature; 2,797 bytes]

## 41. [dsp] RE: DSP-93 still lives?

From: "Julio Morais" <py4lf@amsat.org>
Date: Sat, 16 Oct 1999 20:46:34 -0300
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-45299-1999.10.16-18.17.10--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Bent! Ok about your comments! Are you happy with your 821? Has he possibility to go to 1200 mhz in
future to work P3-D? I don´t think so!
What you say about the new FT847?
73´s from
Julio
  ----- Original Message -----
  From: Bent Bagger
  To: TAPR DSP Special Interest Group
  Sent: Thursday, October 14, 1999 6:48 AM
  Subject: [dsp] RE: DSP-93 still lives?


  Hi Julio,

  We use an Icom 821 so you will not be bad off if you get one of these. Also, we use the original files
 from tha TAPR repository - there hasn't been much development on the DSP-93 lately.

  Best 73 de Bent/OZ6BL
  (also oz6bl@amsat.org)

## 42. [dsp] Re: Are there any BPSK modems for the DSP56002EVM?

From: Bill Vodall <wa7nwp@bigsky.com>
Date: Sat, 16 Oct 1999 16:17:09 -0700 (PDT)
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-45300-1999.10.16-18.29.09--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello Doug and DSP sig.

Thanks for the feedback.  Progress is being made.

>
> >Modem seems to be working.  Power on causes the PTT light to blink
> >and the PTT line on the Radio-2 connector follows the light.
>
> The start-up code shouldn't touch the PTT lines!  Maybe you have
> a wiring error somewhere?

Yes.  You were right.   I was temporarily confused and realized
shortly after sending the note that it didn't make sense for a KISS
TNC to ID at power up.

Now I know that if the 16 pin ribbon cable from the EVM56002 to
the front panel PCB on the TAPR board is reversed, the PTT line
will blink on startup.

With the cable corrected, I was able to send KISS packets from
JNOS at 19,200, and have the expected PTT data and LED result.  It
was working marginally at 1200 so on to the more important 9600.

I loaded the G3RUH modem.  I wired the cable to the IC821.  I
tuned in the Issaquah repeater of the Wetnet system.  The little
green data LED started blinking.   Yippeee.   I'm receiving 9k6
packet.  Much rejoicing was heard through all the apartment.

Unfortunately, 9k6 transmit continues to be less successful.  I've
worked through some of the  details like setting the transmit
to the proper duplex offset.  I've also verified that the level
adjustment on the TAPR box makes a difference in the "noise" received on
a monitoring receiver.  Still, a successfully transmitted packet
eludes me.

I have a MFJ 2 meter data radio and KPC9612.  I attempted to use
that as a second system for testing.  It (the 9612) is copied just
fine by the IC821/EVM system.  No packet from the 821/EVM  was
received by the 9612.

Having the second system gave me a comparison for the "noise"
level of the transmitted signal.  The 9612/MFJ combination is
significantly louder in the monitoring receiver.  Even when the
TXA pot on the TAPR box is set to maximum, the 9612/MFJ system
is still louder/noisier.  The 9612 was adjusted on a communications
analyzer but with a different MFJ dataradio - it may be too hot.

I am suspicous of the IC821 to EVM 56002 TX audio connection.  I
connected TXa from the TAPR kit (center pin of a 1K pot) directly
to pin 4 on  the accessory socket - AMOD/PACT.  It's requesting
a 1V p-p(0.35V rms) signal.   I've seen mention of various schemes
for feeding the 821 including .1 non-polarized capacitors, 9K
resistors to bring the Z up to 10K, and isolation transformers.

If anybody is using the TAPR/EVM successfully with an IC821, I'd
sure appreciate hearing how you connected TXa if not a straight
through connection..

A couple other questions.

Is G3RUH the proper modem to use for standard 9600?  It was the
only one I could find.

Is there any way to put the EVM/G3RUH in a Calibrate - continuous
transmit mode?

How do folks using AX25-utils in Linux set the TxD, slottime and PPersist
on a Kiss TNC?  Is this hardcoded in the EVM?

> >The configuration is set in "Leonid.asm".  I discovered it had the
> >68Mhz clock defined.  Standard for the EVM is 40Mhz.  I changed that.

>
> I always used 68 MHz, since my EVM has a 66 MHz chip.  But
> I bet most programs will work fin at 40 MHz...

I've switched back to 68MHz.  It seems to work fine.

> The programs that I distribute generally use the LEFT channel (Radio 1).
> My hardware setup is like this:
>
> Left input and PTT: VHF radio
> Right input and PTT: HF radio
> Left output:  Both radios
> Right output: speaker

Radio 1 (Left connector) on the TAPR box is active with the
distributed software I've tried:  FSK, FSK1200 and G3RUH.

> Doug N1OWU

Thanks again.  73,

Bill - WA7NWP

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 43. [dsp] Re: DSP-93

From: "Julio Morais" <py4lf@amsat.org>
Date: Sat, 16 Oct 1999 20:53:30 -0300
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Cc: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-45301-1999.10.16-18.31.10--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello Jeff! Thanks for the msg! Let´s wait for an opinion from Bent (oz6bl).He has more experience with DSP-93!
See you soon!
73´s from Julio!

  ----- Original Message -----
  From: Jeffrey S Austin
  To: py4lf@amsat.org
  Cc: oz6bl@amsat.org ; bbagger@dscc.dk
  Sent: Thursday, October 14, 1999 12:09 PM
  Subject: DSP-93


  -----BEGIN PGP SIGNED MESSAGE-----
  Hash: SHA1

  Julio-
  I use the DSP-93 also for the birds. However, I haven't been very
  active lately because of my illness and school, at the same time.
  Ham radio (boo hoo) has to come third. My set is an ICOM 970H with
  the DSP-93 and the internal TNC from PACCOM I'd like to get an 821H
  and dedicate that to the PACSATs so I can put the 970 back to voice.
  With having two radio ports on the back of the DSP, I'd like to know
  if it's possible for the DSP to run two separate applications for
  two separate radios i.e. working a digital bird and working AO-10 at
  the same time?

  - --
  Jeffrey S Austin
  Freshman Civil Engineering Student
  Old Dominion University
  http://home1.gte.net/w8jsa/index.htm
  PGP Key: http://pgpkeys.mit.edu:11371

  -----BEGIN PGP SIGNATURE-----
  Version: PGPfreeware 6.5.1 for non-commercial use <http://www.pgp.com>

  iQA/AwUBOAXx8phHW/zkSRAIEQLozQCgqqc7BZk2EUTHwT6DKBGGE3RfgjYAnAma
  9n3QUr6WO3Thl4yWyPFsbM1W
  =YOGQ
  -----END PGP SIGNATURE-----

## 44. [dsp] Re: Are there any BPSK modems for the DSP56002EVM?

From: Douglas Braun <doug.braun@intel.com>
Date: Sat, 16 Oct 1999 16:38:41 -0700
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-45302-1999.10.16-18.51.11--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I use the EVM with the g3ruh.asm modem and an IC821 for
9600 BPS satellites.  I has always worked fine for me.
I connect the EVM audio output directly to the IC821's
accessory socket, without any potientiometer or anything.

The CODEC TX attenuation is set to 0dB, and the exact
signal level is set by a scaling factor that
is applied to the output data.  The constants defined
at the top of g3ruh.asm set the levels, channels, etc.
The values in the file found at http://users.rcn.com/dougbert
are what I use for my IC821.

There is also a flag (TxContCarrier) that you can set
to always output a TX audio signal, even when there is no real data
to transmit.

I have found that this modem works very well, and I never
had to fiddle with any parameters or hack it (except
for things like setting the levels for my radio).

Doug Braun
N1OWU


At 04:17 PM 10/16/99 , Bill Vodall wrote:

>I am suspicous of the IC821 to EVM 56002 TX audio connection.  I
>connected TXa from the TAPR kit (center pin of a 1K pot) directly
>to pin 4 on  the accessory socket - AMOD/PACT.  It's requesting
>a 1V p-p(0.35V rms) signal.   I've seen mention of various schemes
>for feeding the 821 including .1 non-polarized capacitors, 9K
>resistors to bring the Z up to 10K, and isolation transformers.
>
>If anybody is using the TAPR/EVM successfully with an IC821, I'd
>sure appreciate hearing how you connected TXa if not a straight
>through connection..


---
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To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 45. [dsp] DSP56002EVM, TAPR box and IC821

From: Bill Vodall <wa7nwp@bigsky.com>
Date: Sat, 16 Oct 1999 22:49:41 -0700 (PDT)
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-45350-1999.10.17-01.02.04--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>
> I use the EVM with the g3ruh.asm modem and an IC821 for
> 9600 BPS satellites.  I has always worked fine for me.
> I connect the EVM audio output directly to the IC821's
> accessory socket, without any potientiometer or anything.

The TAPR box comes with the 1K pot.  It may be too much
load.  I'll continue experimenting and will no longer be
hesitant to run with the adjustment wide open.

> There is also a flag (TxContCarrier) that you can set
> to always output a TX audio signal, even when there is no real data
> to transmit.

More good info.  Thanks again.

> I have found that this modem works very well, and I never
> had to fiddle with any parameters or hack it (except
> for things like setting the levels for my radio).
>
> Doug Braun
> N1OWU


Bill - WA7NWP

---
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## 46. [dsp] Useful pages for test signals, etc.

From: Robert McGwier <rwmcgwier@home.com>
Date: Sun, 17 Oct 1999 11:53:26 -0400
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-45381-1999.10.17-11.19.11--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

http://rover.wiesbaden.netsurf.de/~signals/DIG_intro.htm

http://www.wunclub.com/

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 47. [dsp] RE: DSP-93

From: Bent Bagger <bbagger@dscc.dk>
Date: Mon, 18 Oct 1999 09:11:47 +0200
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Cc: "'TAPR DSP Special Interest Group'" <dsp@lists.tapr.org>
Message-ID: <LYR3532-45451-1999.10.18-02.28.54--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Jeffrey and Julio,

Although the DSP-93 has 2 radio ports, the present implementations do not allow two different modems to be loaded at the same time. Also, at 9600 b/s the DSP-93 barely has the horsepower to run the 9600 b/s modem. It might be possible to run a 1200 B/s modem together with the 400 b/s AO-13 TLM but will require some programming on your part. I see no problem in working a digital and an analog satellite at the same time, apart from the usual technical problems (receiver desense, etrc.Good luck.

Best 73 de Bent/OZ6BL

-----Original Message-----
From: Jeffrey S Austin [mailto:w8jsa@gte.net]
Sent: 14. oktober 1999 17:09
To: py4lf@amsat.org <mailto:py4lf@amsat.org>
Cc: oz6bl@amsat.org; bbagger@dscc.dk <mailto:bbagger@dscc.dk>
Subject: DSP-93

-----BEGIN PGP SIGNED MESSAGE-----
Hash: SHA1

Julio-
I use the DSP-93 also for the birds. However, I haven't been very active lately because of my illness and school, at the same time. Ham radio (boo hoo) has to come third. My set is an ICOM 970H with the DSP-93 and the internal TNC from PACCOM I'd like to get an 821H and dedicate that to the PACSATs so I can put the 970 back to voice. With having two radio ports on the back of the DSP, I'd like to know if it's possible for the DSP to run two separate applications for two separate radios i.e. working a digital bird and working AO-10 at the same time?

## 48. [dsp] Re: DSP-93

From: "Jeffrey S Austin" <w8jsa@gte.net>
Date: Mon, 18 Oct 1999 07:51:46 -0400
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Cc: "'TAPR DSP Special Interest Group'" <dsp@lists.tapr.org>
Message-ID: <LYR3532-45469-1999.10.18-07.27.06--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

-----BEGIN PGP SIGNED MESSAGE-----
Hash: SHA1

Bent-
You said:
"I see no problem in working a digital and an analog satellite at the same time, apart from the usual technical problems (receiver desense, etc.)"

So it's possible to load two seperate programmes for the digital and
analogue birds. Right now I've got the auto-load programme that runs
under WiSP, but is there enough memory to run two applications?



- --
Jeffrey S Austin
Freshman Civil Engineering Student
Old Dominion University
http://home1.gte.net/w8jsa/index.htm
PGP Key: http://pgpkeys.mit.edu:11371

- ----- Original Message -----
From: Bent Bagger
To: 'Jeffrey S Austin' ; 'py4lf@amsat.org'
Cc: 'TAPR DSP Special Interest Group'
Sent: Monday, October 18, 1999 3:11 AM
Subject: RE: DSP-93


Hi Jeffrey and Julio,

Although the DSP-93 has 2 radio ports, the present implementations do
not allow two different modems to be loaded at the same time. Also,
at 9600 b/s the DSP-93 barely has the horsepower to run the 9600 b/s
modem. It might be possible to run a 1200 B/s modem together with the
400 b/s AO-13 TLM but will require some programming on your part. I
see no problem in working a digital and an analog satellite at the
same time, apart from the usual technical problems (receiver desense,
etrc.Good luck.

Best 73 de Bent/OZ6BL
- -----Original Message-----
From: Jeffrey S Austin [mailto:w8jsa@gte.net]
Sent: 14. oktober 1999 17:09
To: py4lf@amsat.org
Cc: oz6bl@amsat.org; bbagger@dscc.dk
Subject: DSP-93


- -----BEGIN PGP SIGNED MESSAGE-----
Hash: SHA1

Julio-
I use the DSP-93 also for the birds. However, I haven't been very
active lately because of my illness and school, at the same time.
Ham radio (boo hoo) has to come third. My set is an ICOM 970H with
the DSP-93 and the internal TNC from PACCOM I'd like to get an 821H
and dedicate that to the PACSATs so I can put the 970 back to voice.
With having two radio ports on the back of the DSP, I'd like to know
if it's possible for the DSP to run two separate applications for
two separate radios i.e. working a digital bird and working AO-10 at
the same time?

-----BEGIN PGP SIGNATURE-----
Version: PGPfreeware 6.5.1 for non-commercial use <http://www.pgp.com>

iQA/AwUBOAsJzJhHW/zkSRAIEQLxoQCeIoPOT2I74NnPQWd8y4bvBFbYB2kAn1HJ
rXWr/lOR8pWJ1/xMdInQ/dXG
=odq4
-----END PGP SIGNATURE-----

## 49. [dsp] Re: WISP & DSP56002EVM

From: w4sm@cstone.net (Stacey Mills)
Date: Mon, 18 Oct 1999 18:45:35 -0400
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-45570-1999.10.18-18.02.17--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 07:26 AM 1999-10-15 EDT, you wrote:
>In a message dated 10/15/99 12:44:15 AM Eastern Daylight Time,
>patricio@cyberg8t.com writes:
>
>> Help
>>
>>  How to use the DSP56002EVM as a TNC with WISP?
>

>Hi Pat,
>
>Drop a note to W4SM@amsat.org Stacey is using the EVM with Wisp and has
>written a help file about it.
>
>73,
>Mike, N1JEZ

Hi Mike
   See the attached file.
[Attachment: Wispnotes.txt; application/mac-binhex40; 9,875 bytes]

## 50. [dsp] Re: WISP & DSP56002EVM

From: "PAT McGRATH" <patricio@cyberg8t.com>
Date: Mon, 25 Oct 1999 09:56:49 -0700
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-46601-1999.10.26-09.31.49--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I can receive using WISP with the DSP56002EVM.

Now I would like to run some test in the transmit mode.

How can I tell WISP to transmit?

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

# November 1999

Original source file: dsp.9911
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/dspsig/mail_archive/dsp.9911

## 1. [dsp] Cardinal DSP sound cards

From: "John C. Wren" <jcwren@jcwren.com>
Date: Tue, 9 Nov 1999 11:14:43 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-48603-1999.11.09-10.28.15--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello!

    I have about 15 Cardinal DSP sounds cards.  These were the cards that
were written up in QEX sometime ago.  They use the Analog Devices 2115 DSP
and the SoundPort chip.

    If anyone is interested in these, please e-mail me.

    Since I don't really know if it's appropriate to offer equipment for
sale in this list, I'll discuss price via e-mail.

    Thanks,
    -- Chris

---
John "Chris" Wren, KD4DTS
e-mail:   jcwren@jcwren.com
homepage: www.jcwren.com / www.kd4dts.com

By US Code Title 47, Sec.227(a)(2)(B), a computer/modem/printer
meets the definition of a telephone fax machine. By Sec.227(b)
(1)(C), it is unlawful to send any unsolicited advertisement to
such equipment, punishable by action to recover actual monetary
loss, or $500, whichever is greater, for EACH violation.



---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 2. [dsp] Re: Cardinal DSP sound cards

From: <nl9222tv@tref.nl>
Date: Tue, 9 Nov 1999 20:30:33 +0100
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-48623-1999.11.09-13.44.15--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi John,

Good to  see you, does this soundcard run with PCW 2.1 by DJ7HS ?
Am allready qrv C-Bpsk, but would like to add CCW and give VLF a try.

73 de Ko,
NL9222 (A dutch SWL)


----------
> From: John C. Wren <jcwren@jcwren.com>
> To: TAPR DSP Special Interest Group <dsp@lists.tapr.org>
> Subject: [dsp] Cardinal DSP sound cards
> Date: Tuesday, November 09, 1999 5:14 PM
>
>
>     Hello!
>
>     I have about 15 Cardinal DSP sounds cards.  These were the cards that
> were written up in QEX sometime ago.  They use the Analog Devices 2115
DSP
> and the SoundPort chip.
>
>     If anyone is interested in these, please e-mail me.
>
>     Since I don't really know if it's appropriate to offer equipment for
> sale in this list, I'll discuss price via e-mail.
>

> Thanks,
> -- Chris
>
> ---
> John "Chris" Wren, KD4DTS
> e-mail: jcwren@jcwren.com
> homepage: www.jcwren.com / www.kd4dts.com
>
> By US Code Title 47, Sec.227(a)(2)(B), a computer/modem/printer
> meets the definition of a telephone fax machine. By Sec.227(b)
> (1)(C), it is unlawful to send any unsolicited advertisement to
> such equipment, punishable by action to recover actual monetary
> loss, or $500, whichever is greater, for EACH violation.
>
>
>
> ---
> You are currently subscribed to dsp as: nl9222tv@tref.nl
> To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 3. [dsp] Re: Cardinal DSP sound cards

From: "John C. Wren" <jcwren@jcwren.com>
Date: Tue, 9 Nov 1999 15:41:48 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-48629-1999.11.09-14.55.05--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I don't know about PCW 2.1. I just remember that these are the cards used
in the QEX article. I was going to do something with them, but never got
around to it.

-- Chris

----- Original Message -----
From: <nl9222tv@tref.nl>
To: TAPR DSP Special Interest Group <dsp@lists.tapr.org>
Sent: Tuesday, November 09, 1999 14:30
Subject: [dsp] Re: Cardinal DSP sound cards


> Hi John,
>
> Good to see you, does this soundcard run with PCW 2.1 by DJ7HS ?
> Am allready qrv C-Bpsk, but would like to add CCW and give VLF a try.
>
> 73 de Ko,
> NL9222 (A dutch SWL)
>
>
> ----------
> > From: John C. Wren <jcwren@jcwren.com>
> > To: TAPR DSP Special Interest Group <dsp@lists.tapr.org>
> > Subject: [dsp] Cardinal DSP sound cards
> > Date: Tuesday, November 09, 1999 5:14 PM
> >
> >
> > Hello!
> >
> > I have about 15 Cardinal DSP sounds cards. These were the cards
that
> > were written up in QEX sometime ago. They use the Analog Devices 2115
> DSP
> > and the SoundPort chip.
> >
> > If anyone is interested in these, please e-mail me.
> >
> > Since I don't really know if it's appropriate to offer equipment for
> > sale in this list, I'll discuss price via e-mail.
> >
> > Thanks,
> > -- Chris
> >
> > ---
> > John "Chris" Wren, KD4DTS
> > e-mail: jcwren@jcwren.com

> > homepage: www.jcwren.com / www.kd4dts.com
> >
> > By US Code Title 47, Sec.227(a)(2)(B), a computer/modem/printer
> > meets the definition of a telephone fax machine. By Sec.227(b)
> > (1)(C), it is unlawful to send any unsolicited advertisement to
> > such equipment, punishable by action to recover actual monetary
> > loss, or $500, whichever is greater, for EACH violation.
> >
> >
> >
> > ---
> > You are currently subscribed to dsp as: nl9222tv@tref.nl
> > To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
>
> ---
> You are currently subscribed to dsp as: jcwren@jcwren.com
> To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
>
>


---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 4. [dsp] DSP56002EVM

From: "Michael Hodges" <mick@g4ope.demon.co.uk>
Date: Tue, 9 Nov 1999 20:55:06 -0000
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-48632-1999.11.09-15.06.04--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Been playing around with the Motorola board this past week and noticed
an fairly loud hiss through the headphones when the sample rate is lowered
to
8KHz. Most of the example code with the kit uses 48KHz, and at this rate
there
is no noticeable hiss at all. It seems that this is caused by too much gain
in the
codec output amps and can be eliminated by a few changes to ADA_INIT.ASM,
(or CODEC.ASM).

Add +LO_OUT_DRV to the CTRL_WD_12 equate, this reduces the line
output to 2Vpp max.

Increase the output attenuation to both channels by changing the LEFT_ATTN
and
RIGHT_ATTN multiplier to 16 in the OUPUT_SET equate.
Note that RIGHT_ATTN is wrongly added to the INPUT_SET equate and should be
corrected. The sample software I was modifying didn't use these last two
equates
but redefined these control words in the main program.

You will now need a little more audio into the mic socket but the hiss will
disappear
alltogether.

On a slightly different subject, does anyone know where I can get hold of
the Atmel
AT29C256 here in the UK?




---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 5. [dsp] Re: 38k4 modem

From: "Hamoperator SM7UGT Marcel bos" <sm1ugt@hotmail.com>
Date: Tue, 09 Nov 1999 15:48:27 PST
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-48650-1999.11.09-18.01.46--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

This is something I have gone around a thinking about - how do I count
CPU ticks to complete for instance a sample, at a given frequency with x
things to do at the same time?

>From: Lyle Johnson <lylej@azstarnet.com>
>Reply-To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
>To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
>Subject: [dsp] Re: 38k4 modem
>Date: Thu, 27 May 1999 00:49:47 +0100
>MIME-Version: 1.0
>From bounce-dsp-3082@lists.tapr.org Wed May 26 17:50:27 1999
>Received: from [204.17.217.24] by hotmail.com (1.5) with SMTP id
>MHotMailB915E1D20195D1B98324CC11D91810A60; Wed May 26 17:50:27 1999
>Return-Path: <lylej@azstarnet.com>
>X-Sent-via: StarNet http://www.azstarnet.com/
>Message-Id:
><LYR3082-22816-1999.05.26-19.55.26--SM1UGT#HOTMAIL.COM@lists.tapr.org>
>X-Sender: lylej@pop.azstarnet.com
>In-Reply-To: <LYR3149-22805-1999.05.26-18.28.32--LYLEJ#AZSTARNET.COM@lis
>ts.tapr.org>
>References:
><LYR2980-22791-1999.05.26-16.30.39--FORRERJ#PEAK.ORG@lists.tapr.org>
>List-Unsubscribe: <mailto:leave-dsp-3532K@lists.tapr.org>
>List-Software: Lyris Server version 3.0
>List-Subscribe: <mailto:subscribe-dsp@lists.tapr.org>
>List-Owner: <mailto:owner-dsp@lists.tapr.org>
>X-List-Host: Tucson Amateur Packet Radio <http://www.tapr.org>
>X-Message-Id: <3.0.5.32.19990527004947.008c3a70@pop.azstarnet.com>
>Sender: bounce-dsp-3082@lists.tapr.org
>Precedence: bulk
>
>At 04:23 PM 5/26/99 -0700, you wrote:
> >Hi,
> >
> >100KSPS on a 80MHz EVM leaves only 400 ticks to do
> >something between sample points. Think you can do
> >a demodulator + HDLC in 400 ticks? I would be greatly
> >impressed.
>
>At work we run a 9K6 FSK modem on a 20 MHz Analog Devices fixed point DSP
>(ADSP-2115).  We are sampling at 38.4 kHz, I think.  We're not doing the
>HDLC mind you, just the MODEM.  But then 1200 bit/sec HDLC can be done in
>real time on a 1.7 MHz Z80 (ht old Bob Richardson TRS-80 code), so it
>doesn't take much bandwidth to do that part once you have the bits.
>
>Anyway, at 80 MHz we could sample at 115.2 kilohertz and still do the same
>thing.
>
>I don't know how many cycles are left after the demodulator has done its
>thing.  I guess I'm suggesting that it *may* be possible.  An ADC would be
>pretty easy...
>
> >...However, one would have needed a
> >much more favorable SNR and I dont think they had a
> >choice with the satellite -- or did they?
>
>Always a problem with a spacecraft.  Downlink is a major problem.  PSK woul
>dhave been more efficient, but then you need a wideband SSB receiver...
>
>Regards,
>
>Lyle
>
>---
>You are currently subscribed to dsp as: SM1UGT@HOTMAIL.COM
>To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
>

_____
Get Your Private, Free Email at http://www.hotmail.com

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 6. [dsp] Grey/Harris chips, wideband "SSB"

From: Robert McGwier <rwmcgwier@home.com>
Date: Wed, 10 Nov 1999 08:55:37 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-48761-1999.11.10-08.16.19--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Lyle wrote :

>Always a problem with a spacecraft. Downlink is a major problem. PSK woul
>dhave been more efficient, but then you need a wideband SSB receiver...
>
>Regards,
>
>Lyle


I am no great hardware type, but even I''ve built special purpose receivers
using
high speed A/D's, Grey and Harris DDR's, and sometimes using FPGA's
when necessary to do a lot of stuff.  If we had a wideband "SSB" receiver
(I take this to mean, a complex receiver since we would just get complex
samples from the DDR chips),  could we make use of it with Phase III-D?

Bob


---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 7. [dsp] Re: Grey/Harris chips, wideband "SSB"

From: Douglas Braun <doug.braun@intel.com>
Date: Wed, 10 Nov 1999 11:01:23 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-48779-1999.11.10-10.14.53--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 08:55 AM 11/10/99 , you wrote:

>I am no great hardware type, but even I''ve built special purpose receivers
>using
>high speed A/D's, Grey and Harris DDR's, and sometimes using FPGA's
>when necessary to do a lot of stuff.


I think anybody who builds stuff with DDRs and FPGAs qualifies
as a "great hardware type".

Is it possible to get enough free development tools to
do FPGAs for hobby projects?

Doug Braun
N1OWU


---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 8. [dsp] Re: Grey/Harris chips, wideband "SSB"

From: Johan Forrer <forrerj@peak.org>
Date: Wed, 10 Nov 1999 08:46:23 -0800 (PST)
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-48783-1999.11.10-10.59.57--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Bob/Lyle,

What kind of dynamic range would work here? Also what is
the RF bandwidth that need to be converted?

The DDS/DSS approach can work if these are very modest,
otherwise I am afraid we have to wait for technology
innovations.

73,

Johan


On Wed, 10 Nov 1999, Robert McGwier wrote:

> Lyle wrote :
>
> >Always a problem with a spacecraft. Downlink is a major problem. PSK woul

```
> >dhave been more efficient, but then you need a wideband SSB receiver...
> >
> >Regards,
> >
> >Lyle
>
>
> I am no great hardware type, but even I''ve built special purpose receivers
> using
> high speed A/D's, Grey and Harris DDR's, and sometimes using FPGA's
> when necessary to do a lot of stuff.  If we had a wideband "SSB" receiver
> (I take this to mean, a complex receiver since we would just get complex
> samples from the DDR chips),  could we make use of it with Phase III-D?
>
> Bob
>
>
> ---
> You are currently subscribed to dsp as: FORRERJ@PEAK.ORG
> To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
>
>


---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
```

## 9. [dsp] RE: FPGA tools ...

From: "Tom Scott" <tscott@eni.net>
Date: Wed, 10 Nov 1999 12:59:11 -0800
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-48810-1999.11.10-15.12.43--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

```
Doug,

Re: Is it possible to get enough free development tools to
do FPGAs for hobby projects?

It can be done. Some approaches...

1. Be-friend the local electronic distributor's FAE, he can usually get a
loaner for you
2. Ask the local representatives or distributor's of your favorite FPGA
about training classes. Often tools are included at nominal (greatly
discounted) prices with the training, and sometimes they give away some
copies as door prizes.
3. If you have expertise in areas like DSP and would like to develop DSP
functionality in FPGA's (a very hot topic these days) or something similar,
you may very well be able to work a deal where you help one of their
customers with some code in exchange for a free copy of tools. Or offer to
do a training for their customers on your area of expertise in exchange for
tools.
4. The second and third tier FPGA vendors are much more inclined to give
away tools, recognizing that it is necessary to gain market share. You tend
to not see this attitude from Xilinx or Altera who combined have the lion's
share of the market. But Cypress, Actel, Atmel, and others have had some
pretty generous attitudes toward disseminating tools. I think Cypress had a
deal with a $99 VHDL compiling tool that seemed to work okay for some folks.
Arguably their parts don't have the market share of the leaders for a
variety of reasons, but they may serve your purpose.
5. If you can work through any affiliation with an engineering educational
institution, many of the FPGA vendors have university programs where they
offer free or very low cost tools in an effort to build
next-generation-engineering mind share. Just call or email the factory and
ask for the representative of their university program.

If you want some other ideas or want to explore any of these more drop me a
line off the reflector and I will help if I can.
-Tom
_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/
Tom Scott -- KD7DMH
27005 SW Neill Rd, Oregon 97132
503-603-1931 - Day 503-638-5839 - Eve
503-703-2032 Cell
_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/_/
```

-----Original Message-----
From:  bounce-dsp-8821@lists.tapr.org [mailto:bounce-dsp-8821@lists.tapr.org]
On Behalf Of Douglas Braun
Sent:  Wednesday, November 10, 1999 8:01 AM
To:  TAPR DSP Special Interest Group
Subject:  [dsp] Re: Grey/Harris chips, wideband "SSB"

At 08:55 AM 11/10/99 , you wrote:

>I am no great hardware type, but even I''ve built special purpose receivers
>using
>high speed A/D's, Grey and Harris DDR's, and sometimes using FPGA's
>when necessary to do a lot of stuff.

I think anybody who builds stuff with DDRs and FPGAs qualifies
as a "great hardware type".

Is it possible to get enough free development tools to
do FPGAs for hobby projects?

Doug Braun
N1OWU

---
You are currently subscribed to dsp as: tscott@eni.net
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
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## 10. [dsp] RE: FPGA tools ...

From: Charles Brain <chbrain@dircon.co.uk>
Date: Wed, 10 Nov 1999 21:31:11 +0000
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-48812-1999.11.10-15.45.33--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Tom Scott wrote:
>
> Doug,
>
> Re: Is it possible to get enough free development tools to
> do FPGAs for hobby projects?
>
> It can be done. Some approaches...
>
Try

http://www.microcall.memec.com/xilinx/promo.htm

It is a British company but what they are selling is American.

A Xilinx rep was prepared to sell me the CDROM with their tools
for about $80.

I bought the FPGA starter kit instead, but have not had time to use it
yet!

- Chas

---
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## 11. [dsp] RE: FPGA tools ...

From: Robert McGwier <rwmcgwier@home.com>
Date: Wed, 10 Nov 1999 20:32:39 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-48834-1999.11.10-19.46.01--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Thanks for the info.  As one who feeds on the public
trough (slop slop), I have access to the better tools.
FPGA's are just <SO> powerful now that it is time

they made their way into amateur radio applications.
Wait, don't we have a FHSS radio using them. ;-).
This is not the last application of this technology
we will see and the design tools are getting better
daily.  I will attempt to cobble together my favorite
list of tools and then we can see if we can get
cheap copies of them somehow.  There for a while,
my company was buying multipurpose boxes that
would "do everything" but none as well as could
be.  When FPGA's and DDR's, high speed A/D's
etc. became accessible to software types (I
clearly put myself into that camp), then it became
an order of magnitude cheaper to do designs
in FPGA's, etc. than to by these fancy do-it-all
things so long as we built with enough capability
to handle all of the jobs by reprogramming.

Bob


At 09:31 PM 11/10/1999 +0000, you wrote:
>
>Tom Scott wrote:
>>
>> Doug,
>>
>> Re: Is it possible to get enough free development tools to
>> do FPGAs for hobby projects?
>>
>> It can be done. Some approaches...
>>
>Try
>
>http://www.microcall.memec.com/xilinx/promo.htm
>
>It is a British company but what they are selling is American.
>
>A Xilinx rep was prepared to sell me the CDROM with their tools
>for about $80.
>
>I bought the FPGA starter kit instead, but have not had time to use it
>yet!
>
>- Chas
>
>---
>You are currently subscribed to dsp as: RWMCGWIER@HOME.COM
>To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org


---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 12. [dsp] Re: 38k4 modem

From: Douglas Braun <doug.braun@intel.com>
Date: Wed, 10 Nov 1999 20:34:17 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-48835-1999.11.10-19.47.48--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Most EVM programs derive their timing from the CODEC interrupts.
The program has a main loop that is driven by the CODEC interrupt
(the waitblk macro in Leonid-based programs) which reads the new
input sample(s), processes them, generates any new output samples,
and writes them.

The goal is to get all the work done before the next input
sample(s) arrive.

If you need for some reason to wait a specific amount of time,
you can do a short loop like:

rep 123
nop

For delays longer than a few microseconds you can nest
a couple of loops, and there is also a Leonid macro
to wait for as long as several seconds.

One of the EVM manuals (the Red books) has the exact instruction timings.

Doug
N1OWU

At 06:48 PM 11/9/99 , you wrote:

>This is something I have gone around a thinking about - how do I count
>CPU ticks to complete for instance a sample, at a given frequency with x things to do at the same time?

---
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## 13. [dsp] RE: FPGA tools ...

From: "Steven R. Bible" <srbible@gate.net>
Date: Thu, 11 Nov 1999 12:25:17 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-48991-1999.11.11-11.38.42--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Atmel has a new FPGA Starter Kit that sells for US$150.00.  It's due out
now.  I've made my order but have not received it yet.  I can make a report
once it arrives.  I've been wanting to do FPGA's and this offer seemed
reasonable.

Kanda Systems Ltd make it

    http://www.kanda.com/fpga_starter_kit.pdf

You can order direct from Kanda, or in the States try All American at

    http://buy.allamerican.com/kanda.html

Also read up on Atmel's FPGA line at

     http://www.atmel.com/atmel/products/prod3.htm

- Steve, N7HPR
   n7hpr@tapr.org
   n7hpr@amsat.org

---
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To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 14. [dsp] RE: FPGA tools ...

From: Charles Brain <chbrain@dircon.co.uk>
Date: Thu, 11 Nov 1999 17:39:20 +0000
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-48995-1999.11.11-11.53.30--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

"Steven R. Bible" wrote:
>
> Atmel has a new FPGA Starter Kit that sells for US$150.00.  It's due out
> now.  I've made my order but have not received it yet.  I can make a report
> once it arrives.  I've been wanting to do FPGA's and this offer seemed
> reasonable.
>
> Kanda Systems Ltd make it
>

I bought Kanda's AVR programming environment as I am migrating my designs away from
PICs. They have offered me a 20% discount on future purchases. Its a Welsh company.

- Chas

---
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## 15. [dsp] DSP Guide

From: "Lanier, Robert" <rlanier@harris.com>
Date: Thu, 11 Nov 1999 13:06:51 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-48997-1999.11.11-12.20.25--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Some of you may be interested in this link:    http://www.dspguide.com

This is a website that has the full text of a DSP book online, in PDF format. It
appears to be a good book and is quite thorough. There is also a link for
ordering the hardcopy of the book.

Tony   KE4ATO

---
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## 16. [dsp] RE: FPGA tools ...

From: Gary Chatters <gc@Radix.Net>
Date: Thu, 11 Nov 1999 13:38:31 -0500 (EST)
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-49001-1999.11.11-12.51.57--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>
>Re: Is it possible to get enough free development tools to
>do FPGAs for hobby projects?
>

There is a web page for free EDA tools at http://www.geda.seul.org.
If you follow the "Links" link, you'll find some VHDL and Verilog software.

Whether or not any of this is useful for the kind of projects you
want to do, I have no idea.

73,
Gary

---
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## 17. [dsp] Re: DSP Guide

From: "Michael Hodges" <mick@g4ope.demon.co.uk>
Date: Thu, 11 Nov 1999 18:42:20 -0000
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-49002-1999.11.11-12.52.58--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

-----Original Message-----
From: Lanier, Robert <rlanier@harris.com>
To: TAPR DSP Special Interest Group <dsp@lists.tapr.org>
Date: 11 November 1999 18:08
Subject: [dsp] DSP Guide


>Some of you may be interested in this link:    http://www.dspguide.com
>
>This is a website that has the full text of a DSP book online, in PDF
format. It
>appears to be a good book and is quite thorough. There is also a link for
>ordering the hardcopy of the book.
>
>Tony   KE4ATO
>
I downloaded this book a few weeks ago and can also recommend it. Its not
as maths intensive as the usual texts making it an easier book to read.

Mick  G4OPE


---
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To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 18. [dsp] Call sign change

From: Douglas Braun <doug.braun@intel.com>
Date: Fri, 12 Nov 1999 12:51:59 -0500

To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-49241-1999.11.12-12.05.55--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello,

I decided to be vain, and change my call from N1OWU to NA1DB.
(I submitted the ULS application back on Sep. 9, and it
finally came through this week.)

Doug Braun
NA1DB

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 19. [dsp] Analog Digital Broadcast Radio development |help wanted|

From: "Hamoperator SM7UGT Marcel bos" <sm1ugt@hotmail.com>
Date: Fri, 12 Nov 1999 10:38:41 PST
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Cc: marcel_I_Bos@hotmail.com
Message-ID: <LYR3532-49251-1999.11.12-12.52.12--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I am together with some friends working on a way to produce digital
radio without the Eropean Data Audio system.

Now I would like to know the following..

How much data  can one transfer with
current modem technology on a 14.5 Khz Audiochannel?

The channel has no return format so I guess there has to
be some sort of smart checksum error correction.

How many CPU cyckels are needed in a such device?  Ie how
much are left - ie suggest a good processor!

_____
Get Your Private, Free Email at http://www.hotmail.com

---
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To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 20. [dsp] Re: Analog Digital Broadcast Radio development |help wanted|

From: Tim Baggett <aa5df@yahoo.com>
Date: Fri, 12 Nov 1999 12:02:47 -0800 (PST)
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-49278-1999.11.12-14.16.11--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> How much data  can one transfer with
> current modem technology on a 14.5 Khz Audiochannel?

The absolute maximum rate you can transmit on the channel is defined by the
Shannon Channel Capacity formula. It states that the maximum data rate you can
transmit depends on the bandwidth of the channel ( you state 14.5 KHz above)
and the signal to noise ratio (you didn't specify).

The practical limit highly depends on the modulation scheme you use, and error
correcting methods (viterbi, turbo codes, etc.)

I do not know what current technology will provide the fastest data rate over
14.5 KHz though - perhaps someone else has a better grip of present technology.

>
> The channel has no return format so I guess there has to
> be some sort of smart checksum error correction.

Viterbi, turbocodes, and various block codes will allow you to do error
correction on the receiving end. These codes may add extra bits to the data
which will reduce your data rate thruput, but at least it will help guarantee
you receive correct bits.

>

> How many CPU cyckels are needed in a such device?  Ie how
> much are left - ie suggest a good processor!


This is highly dependant upon the modem technology / coding technology you
choose. Basically, the less complicated modem you choose, the fewer DSP cycles
you will require and the cheaper the DSP can be. However, you also will not
achieve the fastest data rates. To achieve the fastest data rates approaching
the limits of the Shannon channel capacity will require a lot of cutting edge
technology and a lot of expensive DSP clock cycles.

I'm probably being a bit unclear, but without a known target datarate and
channel SNR, its difficult to determine which modem technology is best.

There are some good modem folks on this list, so I'm sure you will read some
other good comments.

73,
Tim
AA5DF

_____
Do You Yahoo!?
Bid and sell for free at http://auctions.yahoo.com

---
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To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 21. [dsp] Re: DSP Guide

From: "Hamoperator SM7UGT Marcel bos" <sm1ugt@hotmail.com>
Date: Fri, 12 Nov 1999 13:02:11 PST
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-49292-1999.11.12-15.22.21--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Its seems like a helper if someone are slamed with an so great idea
and can't preform it since he or she needs the knowlage first..



>From: "Michael Hodges" <mick@g4ope.demon.co.uk>
>Reply-To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
>To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
>Subject: [dsp] Re: DSP Guide
>Date: Thu, 11 Nov 1999 18:42:20 -0000
>MIME-Version: 1.0
>From bounce-dsp-3082@lists.tapr.org Thu Nov 11 10:39:42 1999
>Received: from [204.17.217.24] by hotmail.com (3.2) with ESMTP id
>MHotMailB9F4586B000CD820F3A6CC11D9180D8A0; Thu Nov 11 10:39:42 1999
>Return-Path: <mick@g4ope.demon.co.uk>
>Message-ID:
><LYR3082-49002-1999.11.11-12.52.58--SM1UGT#HOTMAIL.COM@lists.tapr.org>
>X-Priority: 3
>X-MSMail-Priority: Normal
>X-MimeOLE: Produced By Microsoft MimeOLE V4.71.1712.3
>List-Unsubscribe: <mailto:leave-dsp-3532K@lists.tapr.org>
>List-Software: Lyris Server version 3.0
>List-Subscribe: <mailto:subscribe-dsp@lists.tapr.org>
>List-Owner: <mailto:owner-dsp@lists.tapr.org>
>X-List-Host: Tucson Amateur Packet Radio <http://www.tapr.org>
>X-Message-Id: <01bf2c74$7cbaab20$e411dec2@g4ope.demon.co.uk>
>Sender: bounce-dsp-3082@lists.tapr.org
>Precedence: bulk
>
>
>-----Original Message-----
>From: Lanier, Robert <rlanier@harris.com>
>To: TAPR DSP Special Interest Group <dsp@lists.tapr.org>
>Date: 11 November 1999 18:08
>Subject: [dsp] DSP Guide
>
>
> >Some of you may be interested in this link:    http://www.dspguide.com
> >
> >This is a website that has the full text of a DSP book online, in PDF
>format. It
> >appears to be a good book and is quite thorough. There is also a link for
> >ordering the hardcopy of the book.
> >

> >Tony   KE4ATO
> >
>I downloaded this book a few weeks ago and can also recommend it. Its not
>as maths intensive as the usual texts making it an easier book to read.
>
>Mick  G4OPE
>
>
>---
>You are currently subscribed to dsp as: SM1UGT@HOTMAIL.COM
>To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
>

_____
Get Your Private, Free Email at http://www.hotmail.com

---
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## 22. [dsp] Spectran beta 1 available

From: Alberto di Bene <dibene@usa.net>
Date: Sun, 14 Nov 1999 21:40:31 +0100
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-49734-1999.11.14-14.54.50--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I have uploaded the Beta1 version of Spectran, a native Windows spectral analysis
program.
It is the follow-on of Hamview, in case you know it, but this new version works
with any sound card supported by Windows.

It has some interesting capabilities, the main one is the resolution that ranges from

4 Hz to 0.032 Hz (32 milliHertz). For this reason it is well suited for weak signals
detection, such as for VLF, EME or SETI.

The mapping between audio levels and colors is done in such a way to be not dependent

from the absolute level of the input signal, but rather on the deviation from the
running average.
This allows to detect, e.g., the harmonics of the 50 (or 60) Hertz picked up by an
open
input line to the sound card.

Please try it, (freeware for radio amateurs and experimenters) and give comments and
suggestions.

Alberto    I2PHD

P.S. The program can be downloaded from  http://members.xoom.com/spectran

---
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## 23. [dsp] RE: FPGA tools ...

From: bsmeds@esoc.esa.de
Date: Mon, 15 Nov 1999 12:27:55 +0100
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-49891-1999.11.15-05.43.26--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The Atmel Starter Kit is also offered in Germany from Ineltek GmbH
http://www.ineltek.de/
The price is 250 DM + 16 % tax. The offer is valid to 30. November 99.
Later it will cost 285 DM + tax.
See also the November 99 issue of the German magazine Elektor. It includes
the Atmel IDS  CD ROM Version 6.
I ordered the kit yesterday and look forward to start some experimenting
with FPGA.
Boris Smeds
DJ0EX SM7GJ

"Steven R. Bible" <srbible@gate.net> on 99-11-11 18:25:17

Please respond to "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>

To:   "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
cc:    (bcc: Boris Smeds/esoc/ESA)
Subject:  [dsp] RE: FPGA tools ...

Atmel has a new FPGA Starter Kit that sells for US$150.00.  It's due out
now.  I've made my order but have not received it yet.  I can make a report
once it arrives.  I've been wanting to do FPGA's and this offer seemed
reasonable.

Kanda Systems Ltd make it

    http://www.kanda.com/fpga_starter_kit.pdf

You can order direct from Kanda, or in the States try All American at

    http://buy.allamerican.com/kanda.html

Also read up on Atmel's FPGA line at

     http://www.atmel.com/atmel/products/prod3.htm

- Steve, N7HPR
   n7hpr@tapr.org
   n7hpr@amsat.org

---
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To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 24. [dsp] Re: Grey/Harris chips, wideband "SSB"

From: Lyle Johnson <lylej@azstarnet.com>
Date: Mon, 15 Nov 1999 14:42:37 +0000
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-49920-1999.11.15-08.58.07--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Bob!

At 08:55 AM 11/10/99 -0500, you wrote:
>Lyle wrote :
>
>>Always a problem with a spacecraft. Downlink is a major problem. PSK woul
>>dhave been more efficient, but then you need a wideband SSB receiver...
>>
>>Regards,
>>
>>Lyle
>
>
>I am no great hardware type, but even I''ve built special purpose receivers
>using
>high speed A/D's, Grey and Harris DDR's, and sometimes using FPGA's
>when necessary to do a lot of stuff.  If we had a wideband "SSB" receiver
>(I take this to mean, a complex receiver since we would just get complex
>samples from the DDR chips),  could we make use of it with Phase III-D?

I expect so.  The widest signal we have is the 153K6 PSK downlink, and one
of these is shaped (root raised cosine in spectrum).

The RUDAK on-boarsd stuff is as you describe - 12-bit A/D running at 32 Mhz
sampling rate feeding Harris 50016 DDC then to a dedicated ADSP2171 per
uplink.  Downlinks use dedicated ADSP-2171 to AD7008 DDS...

Regards,

Lyle

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 25. [dsp] RE: FPGA tools ...

From: Lyle Johnson <lylej@azstarnet.com>
Date: Thu, 18 Nov 1999 04:12:35 +0000
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-50570-1999.11.17-22.26.44--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi,

Thought I'd jump in...

The main players in FPGAs these days are Xilinx, Altera (roughly equal dollar revenue, with Altera being a bit more CPLD heavy and Xilinx a bit more FPGA heavy) and Lucent. These are all SRAM based, meaning they are infinitely reprogrammable, and that they have to be programmed every time power is cycled. The bit players are QuickLogic and Actel (Antifuse based), and Atmel (SRAM based).

The other names you usually hear are CPLD-centric: Cypress, Lattice/Vantis, and a couple others I have forgotten.

Xilinx pioneered much of the DSP-on-an-FPGA work, and their devleopment tools suite makes it very simple to configure and implement these types of functions. Atmel is pushing reconfigurable logic (on the fly, essentially using 1/2 the part while you reload the other half, then swapping to relaod the first half, etc.).

I have used the Cypre4ss, Vantis, early Lattice, QuickLogic, Altera and Xilinx tools. Not for DSP, but for lots of smaller designs. I offer the ofllowing observations:

1) The Xilinx $95 Foundation Series tools are excellent. You need lots of disk space on your hard drive (say, 1/2 a gigabyte or so) and a decent processor to run them. These let you design with their Spartan FPGAs (these range from 5,000 to 40,000 gates at pretty low prices) and the low end Virtex parts (50K gates or so). As well as the low end of their other products, and all their CPLDs.

It would be easy enough to make a demonstration/hobbiest/experimenter board with a 40K gate Spartan for say, $100 or so in parts and raw PCB, you assemble it. OR maybe there is such already available...

2) Altera has changed their tool chain to a "lease for a year at commercial prices: model. Not experimenter-friendly. This is "Quartus."

Their excellent MaxPlusII tools are now FREE for downloading on the web. Their Flex6000 series family looks about right for experimenting, these are RAM-based FPGAs and are supported by the MaxPlusII tools.

Still need a board...

3) QuickLogic has free tools and will even provide up to 3 free parts. These are not reprogrammable, though, and for a beginner not a wise choice for this reson, I suspect. I use these tools all the time for space projects and have found them to be very, very good. I use the not-free tool chain, but the free one is a subset.

The programmer costs serious money ($1500+).

4) For a limited time, Actel tools are free for some parts. Not reprogrammable. Their new FLASH based reprogrammable parts require the $$$ tools.

5) The Atmel tools have been described here by others. I have no experience with them.

It is interesting to note that Atmel is releasing a "system on a chip" using an AVR processor and FPGA on the same die! AVR tools are free...

***

Nowadays, I use QuickLogic for lots of projects, especially space-related ones. I use Xilinx for projects that are a bit less well defined. I routinely (and my company routinely) uses an attached processor to boot the Xilinx FPGA so we can store the configuraton in FLASH, use the FPGA where it makes sense and the microprocessor where it makes sense, etc.

All of these tools have learning curves. Don't expect to get the tools, install them one Saturday morning and be running a design other than the canned demo ones by Sunday afternoon.

***

Disclosure. I own a small amount of QuickLogic stock. None of the others that I know of unless they are in my 401(k) mutual fund(s).

Enjoy!

Lyle

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 26. [dsp] Re: Grey/Harris chips, wideband "SSB"

From: Lyle Johnson <lylej@azstarnet.com>
Date: Thu, 18 Nov 1999 03:48:24 +0000
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-50569-1999.11.17-22.26.41--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello, Johan!

The bandwidth is about 300 kHz.

RUDAK uses an Analog Devices AD9042 12-bit ADC clocked at 32 MHz feeding Harris HSP50016 (oops, Intersil HSP50016) DDC chips for receive. The IF is around 11 MHz.

On Tx, it uses an Analog Devices AD7008 IQ DDS chip, clocked at 32 Mhz and generating a carrier at an IF of about 11 MHz. Analog Devices ADSP-2171 are used for the DSP engines, one per uplink and one per downlink.

I am uncertain of the dynamic range of the transmitters on P3D, but I suspect 30 to 40 dB is reasonable to work with, implying 8 or 9 bit resolution. We get some benefits from decimation, so maybe a video A/D converter of 7-8 bits accuracy would work - they're pretty cheap these days.

73,

Lyle

At 08:46 AM 11/10/99 -0800, you wrote:
>
>Bob/Lyle,
>
>What kind of dynamic range would work here? Also what is
>the RF bandwidth that need to be converted?
>
>The DDS/DSS approach can work if these are very modest,
>otherwise I am afraid we have to wait for technology
>innovations.
>
>73,
>
>Johan

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
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## 27. [dsp] RE: FPGA tools ...

From: Hamish Moffatt <hamish@rising.com.au>
Date: Thu, 18 Nov 1999 15:40:40 +1100
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-50574-1999.11.17-22.54.29--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Thu, Nov 18, 1999 at 04:12:35AM +0000, Lyle Johnson wrote:
> Xilinx pioneered much of the DSP-on-an-FPGA work, and their devleopment
> tools suite makes it very simple to configure and implement these types of
> functions.  Atmel is pushing reconfigurable logic (on the fly, essentially
> using 1/2 the part while you reload the other half, then swapping to relaod
> the first half, etc.).

Has anybody found a use for this yet? (Half-joking, half-serious here.)
Xilinx canned their XC6200 reprogrammable series, due to lack of
commercial interest IIRC. The Virtex is reprogammable by row at
a time I believe.

> All of these tools have learning curves.  Don't expect to get the tools,
> install them one Saturday morning and be running a design other than the
> canned demo ones by Sunday afternoon.

Very good advice.

I have only worked with Xilinx parts first hand, but have been following
the cheap software situation for a while. MaxPlusII Baseline is free
from Altera. Actel are pushing some free software too; I think I have
the "Actel Desktop" here somewhere but am yet to install it. Xilinx have
free CPLD processing available on their web site, but not FPGA (yet, anyway).

cheers
Hamish VK3SB
--
Hamish Moffatt  Mobile: +61 412 011 176  hamish@rising.com.au
Rising Software Australia Pty. Ltd.  http://www.risingsoftware.com/
Phone: +61 3 9894 4788  Fax: +61 3 9894 3362  USA: 1 888 667 7839

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 28. [dsp] EVM Spurious Output

From: Douglas Braun <doug.braun@intel.com>
Date: Sun, 21 Nov 1999 09:47:29 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-51195-1999.11.21-09.03.16--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello,

I just noticed that my EVM puts out a really
strong signal exactly on 144.390 MHz (the APRS frequency).
It seems to be related to the CODEC, since it
disappears if I run a program that does not initialize
the CODEC.  If I run programs that set the CODE to
different sampling rates, the strength of the interference
changes, but it is always there.

Has anyone else seen this?  In the past, I had
my antennas two floors above my shack, with rebar-filled
concrete in between, but now I live in a smaller
wood-frame house, and I pick up a lot more junk
from the computers, etc.

(The power supply of my cable modem is amazing-
it basically wipes out shortwave reception.)

Doug Braun
NA1DB (formerly N1OWU)

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 29. [dsp] Re: EVM Spurious Output

From: "Steven R. Bible" <srbible@gate.net>
Date: Sun, 21 Nov 1999 13:14:40 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-51231-1999.11.21-12.27.05--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Yes Doug, I have seen this to.  I guess i we've found it when playing with
APRS.  I have a birdie right on 144.39.  I have to turn off the EVM in

order to do APRS.

- Steve


At 09:47 AM 11/21/99 -0500, you wrote:
>Hello,
>
>I just noticed that my EVM puts out a really
>strong signal exactly on 144.390 MHz (the APRS frequency).
>It seems to be related to the CODEC, since it
>disappears if I run a program that does not initialize
>the CODEC.  If I run programs that set the CODE to
>different sampling rates, the strength of the interference
>changes, but it is always there.
>
>Has anyone else seen this?  In the past, I had
>my antennas two floors above my shack, with rebar-filled
>concrete in between, but now I live in a smaller
>wood-frame house, and I pick up a lot more junk
>from the computers, etc.
>
>(The power supply of my cable modem is amazing-
>it basically wipes out shortwave reception.)
>
>Doug Braun
>NA1DB (formerly N1OWU)
>
>
>---
>You are currently subscribed to dsp as: SRBIBLE@GATE.NET
>To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org


---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 30. [dsp] Re: EVM Spurious Output

From: "PAT McGRATH" <patricio@cyberg8t.com>
Date: Sun, 21 Nov 1999 14:21:12 -0800
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-51255-1999.11.21-16.37.55--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I also have the same problem but I can still receive APRS okay.

What brand cable modem is it? I am thinking of installing a cable modem but
not if it wipes out my shortwave reception. I would have to go with DSL if
the cable modem is a problem

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 31. [dsp] Re: EVM Spurious Output

From: Rich Mulvey <mulveyr@iname.com>
Date: Sun, 21 Nov 1999 18:09:54 -0500 (EST)
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-51272-1999.11.21-17.23.54--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I have a Motorola cable modem, and it doesn't put out any discernible RF.  In
fact, it is currently sitting right next to my KPC-9612/WA4DSY/Tekk data radios
& TNC's.

- Rich


On 21-Nov-99 PAT McGRATH wrote:
> I also have the same problem but I can still receive APRS okay.
>
> What brand cable modem is it? I am thinking of installing a cable modem but
> not if it wipes out my shortwave reception. I would have to go with DSL if
> the cable modem is a problem

>
>
>
>
>
> ---
> You are currently subscribed to dsp as: MULVEYR@INAME.COM
> To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

--
Rich


---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 32. [dsp] Re: EVM Spurious Output

From: Douglas Braun <doug.braun@intel.com>
Date: Sun, 21 Nov 1999 23:23:25 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-51290-1999.11.21-22.37.26--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The cable modem is from Hybrid Networks, but the power supply is some generic black box.
If you get a DSL modem (I would if I could), you could end up with the same power supply,
and the same problem...

Doug

At 05:21 PM 11/21/99 , you wrote:
>I also have the same problem but I can still receive APRS okay.
>
>What brand cable modem is it? I am thinking of installing a cable modem but
>not if it wipes out my shortwave reception. I would have to go with DSL if
>the cable modem is a problem


---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 33. [dsp] Re: EVM Spurious Output

From: "PAT McGRATH" <patricio@cyberg8t.com>
Date: Sun, 21 Nov 1999 21:28:53 -0800
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-51294-1999.11.21-23.46.27--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Doug

Why DSL instead of Cable Modem? I believe the cable modem could give more
speed.



> The cable modem is from Hybrid Networks, but the power supply is some
generic black box.
> If you get a DSL modem (I would if I could), you could end up with the
same power supply,
> and the same problem...
>
> Doug



---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
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## 34. [dsp] Re: EVM Spurious Output

From: "John C. Wren" <jcwren@jcwren.com>
Date: Mon, 22 Nov 1999 00:39:30 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-51295-1999.11.21-23.53.23--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Because cables companies represent all that is EVIL...  Cable is the dark
side of the farce.

More seriously, cable modems suffer the same problem as any point-source
service provider.  The more people they hang on there, the slower it gets.
And cable companies are notoriously cheap, so they're not going to hang a T3
at the head-end of every neighborhood.  Their capacity sizing is based on
average usage, not peak demand.  Somewhat analogous to why so many people
complain about getting busy signals with AOL.

----- Original Message -----
From: "PAT McGRATH" <patricio@cyberg8t.com>
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Sent: Monday, November 22, 1999 00:28
Subject: [dsp] Re: EVM Spurious Output


> Doug
>
> Why DSL instead of Cable Modem? I believe the cable modem could give more
> speed.
>
>
>
> > The cable modem is from Hybrid Networks, but the power supply is some
> generic black box.
> > If you get a DSL modem (I would if I could), you could end up with the
> same power supply,
> > and the same problem...
> >
> > Doug
>
>
>
> ---
> You are currently subscribed to dsp as: jcwren@jcwren.com
> To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
>
>


---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 35. [dsp] Re: EVM Spurious Output

From: Douglas Kilgore <dougkilgore@home.com>
Date: Mon, 22 Nov 1999 00:35:11 -0600
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-51311-1999.11.22-00.49.01--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I'm happy with my cable modem.  Thru TCI Cable, I use the @Home ISP.   There are
slow times and there are fast times.

There's a web page you can access to measure the speed of your line:
http://www.computingcentral.com/topics/bandwidth/speedtest50.asp

In the last two minutes three readings showed 418 - 618 -688 Kbps.  That's
download speed.  Upload is limited to 128 Kbps by @Home.

Doug Kilgore KD5OUG
dougkilgore@home.com

"John C. Wren" wrote:

> Because cables companies represent all that is EVIL...  Cable is the dark
> side of the farce.
>
> More seriously, cable modems suffer the same problem as any point-source
> service provider.  The more people they hang on there, the slower it gets.
> And cable companies are notoriously cheap, so they're not going to hang a T3
> at the head-end of every neighborhood.  Their capacity sizing is based on
> average usage, not peak demand.  Somewhat analogous to why so many people
> complain about getting busy signals with AOL.
>
> ----- Original Message -----
> From: "PAT McGRATH" <patricio@cyberg8t.com>
> To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>

> Sent: Monday, November 22, 1999 00:28
> Subject: [dsp] Re: EVM Spurious Output
>
> > Doug
> >
> > Why DSL instead of Cable Modem? I believe the cable modem could give more
> > speed.
> >
> >
> >
> > > The cable modem is from Hybrid Networks, but the power supply is some
> > generic black box.
> > > If you get a DSL modem (I would if I could), you could end up with the
> > same power supply,
> > > and the same problem...
> > >
> > > Doug
> >
> >
> >
> > ---
> > You are currently subscribed to dsp as: jcwren@jcwren.com
> > To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
> >
> >
>
> ---
> You are currently subscribed to dsp as: dougkilgore@home.com
> To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org


---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 36. [dsp] Re: EVM Spurious Output

From: FoulCraven@aol.com
Date: Mon, 22 Nov 1999 09:07:10 EST
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-51340-1999.11.22-08.21.05--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I actually work at Motorola on the DSP technical support group...

I saw the birdie the EVM generates last year,  when it was the
first TNC I had to do APRS.  I found that if you move the antenna
far enough away from the TNC, the birdie does not affect the
APRS reception that much.  I made an attempt at building a shielded
box but it was not tight enough.  My supervisor and I did a quick test
with one an extruded aluminum box and covers and it appeared to
work a whole lot better at keeping the EVM's emissions down.

I don't know how it works with the TAPR interface box, since I built
my own and boxed it myself.

--david
wb2liv

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 37. [dsp] Re: EVM Spurious Output

From: Douglas Braun <doug.braun@intel.com>
Date: Mon, 22 Nov 1999 13:26:24 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-51377-1999.11.22-12.40.36--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 12:28 AM 11/22/99 , you wrote:
>Doug
>
>Why DSL instead of Cable Modem? I believe the cable modem could give more
>speed.

My cable company (RCN) uses a "phone return" setup, so you have to
dedicate a phone line for the cable modem, just like regular dial-in access.
With the DSL, you get around-the-clock access without having to use (and pay for)
a phone line.

If RCN ever upgrades to a bidirectional cable modem system, it
would have the same effect.  By the way, my cable
modem access seems to max out at 50k bytes/sec, which is less than advertised
speed, but still at least 10x the speed of an ordinary modem.  But
when the internet is crowded, it will get as slow as anything else...

Doug
NA1DB

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 38. [dsp] Re: EVM Spurious Output

From: "Steven R. Bible" <srbible@gate.net>
Date: Mon, 22 Nov 1999 19:51:33 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-51461-1999.11.22-19.05.25--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> I don't know how it works with the TAPR interface box, since I built
> my own and boxed it myself.

My experience is with the EVMRI enclosure.  It is not EMI tight and I
get the birdie on 144.39.

Any other simple suggestions on how to minimize it?

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 39. [dsp] Re: EVM Spurious Output

From: TBaggett@AustinTX.net (Tim Baggett)
Date: Mon, 22 Nov 1999 20:02:11 -0600
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-51470-1999.11.22-19.53.56--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>
>My experience is with the EVMRI enclosure.  It is not EMI tight and I
>get the birdie on 144.39.
>
>Any other simple suggestions on how to minimize it?

Adhesive copper tape to 'seal' up the seams around the enclosure?

Ferrite bead (aka 'Prayer beads' since you put them on and pray that they work)
on the power/audio cables?

Just a few random thoughts....

Tim

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
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## 40. [dsp] Re: EVM Spurious Output

From: Douglas Braun <doug.braun@intel.com>
Date: Mon, 22 Nov 1999 21:14:02 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-51474-1999.11.22-20.28.00--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I bet changing the CODEC crystal frequency would move the birdie,
but then the CODEC data rates would change, and the models would
have to be recompiled or redesigned.

The 144.39 frequency is close to, but not exactly the 6th harmonic

of the CODEC crystal frequency.  Odd.

>My experience is with the EVMRI enclosure.  It is not EMI tight and I
>get the birdie on 144.39.
>
>Any other simple suggestions on how to minimize it?

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 41. [dsp] Re: EVM Spurious Output

From: Douglas Braun <doug.braun@intel.com>
Date: Mon, 22 Nov 1999 21:15:37 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-51475-1999.11.22-20.29.43--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> >My experience is with the EVMRI enclosure.  It is not EMI tight and I
> >get the birdie on 144.39.
> >
> >Any other simple suggestions on how to minimize it?

I bet the audio I/O lines carry most of the spurious signal, since they are connected
directly to the CODEC...

Doug
NA1DB

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 42. [dsp] Re: EVM Spurious Output

From: "Diggs, Steve" <Diggs@daugherty.com>
Date: Tue, 23 Nov 1999 07:52:50 -0600
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-51554-1999.11.23-08.08.15--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

This discussion thread is of special interest to me, because I am assembling
my TAPR 56002 Kit right now. It would seem that the enclosure would provide
an effective RF shield, specially if the case is properly grounded.

Also, a question regarding an individual part in the TAPR kit. When I
installed the DB-9 on the 56002 main board, (Step 2) I noticed it does not
have the soldered-in screw anchors like the DB-9 for the ICE port has. These
anchors are on the back side of the connector; where the ICE connector has
the solder anchors, the second DB-9 only has nuts. Even if they aren't
needed on the second DB-9, shouldn't the bolts that a DB-9 cable screw into
be included? Or am I just a hopeless whiner? <grin>

Regards,
Steve Diggs, W4EPI

-----Original Message-----
From: Steven R. Bible [mailto:srbible@gate.net]
Sent: Monday, November 22, 1999 7:52 PM
To: TAPR DSP Special Interest Group
Subject: [dsp] Re: EVM Spurious Output

> I don't know how it works with the TAPR interface box, since I built
> my own and boxed it myself.

My experience is with the EVMRI enclosure.  It is not EMI tight and I
get the birdie on 144.39.

Any other simple suggestions on how to minimize it?

---
You are currently subscribed to dsp as: Diggs@daugherty.com

To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 43. [dsp] Re: EVM spur... (DSP)

From: Douglas Braun <doug.braun@intel.com>
Date: Tue, 23 Nov 1999 10:23:32 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-51564-1999.11.23-09.39.38--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I see a frequency of 144,389,530 Hz, plus or minus 50Hz or so.
And I can pick up the fundamental at 3.072130 MHz.
This seems to be 8th submultiple of the 24.576 CODEC xtal freq.
I can pick up the 24.576 frequency too, but for some reason
it is a lot weaker than the 3.072...

This is all strange, because all the circuitry that uses these freqs
is supposed to be contained within the CODEC chip.  Possibly
the analog ground of the EVM is noisy, so bypassing the audio signals
to it does not help.  I may try putting capacitors right on the DIN
connectors on the back panel of my (homebrew) enclosure.

Doug
NA1DB

At 07:52 AM 11/23/99 , you wrote:
>Hi Dough,
>         I have been posting to the DSP List but something is preventing my
>messages from being reflected.
>         All I wanted to make known is that the 144.39 spur is repeated every
>3.072MHz, I could not find other harmonics so I suppose 3.072MHz is the
>fundamental. The 47th. harm. just falls very near the APRS freq. (should
>be 144.384) and its brothers extend well above 400MHz!!.
>         Now, what is clocking at 3.072MHz into the EVM?
>
>         73 de Nando, CX6DD.


---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 44. [dsp] Re: EVM spur... (DSP)

From: Johan Forrer <forrerj@peak.org>
Date: Tue, 23 Nov 1999 08:45:14 -0800 (PST)
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-51578-1999.11.23-10.59.16--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi,

Just a suggestion ...

Have a look at the CODEC and DSP power/ground interface on
the schematics. Note that the CODEC circuitry is heavily isolated
from the rest of the main analog circuits -- in particular,
note there is a choke/bead on the lead that connects the CODEC
ground mass to the main ground return. Does this cause the
CODEC ground plane to add to radiated RF? I am not sure that
this choke is a good idea. Probably was intended good. I have had
instructions to short those out. Eliminating that isolator
does not degrade noise performance of the CODEC as far as I can
tell.

Check it out --- maybe it helps?

73,

Johan, KC7WW



On Tue, 23 Nov 1999, Douglas Braun wrote:

> I see a frequency of 144,389,530 Hz, plus or minus 50Hz or so.
> And I can pick up the fundamental at 3.072130 MHz.

> This seems to be 8th submultiple of the 24.576 CODEC xtal freq.
> I can pick up the 24.576 frequency too, but for some reason
> it is a lot weaker than the 3.072...
>
> This is all strange, because all the circuitry that uses these freqs
> is supposed to be contained within the CODEC chip.  Possibly
> the analog ground of the EVM is noisy, so bypassing the audio signals
> to it does not help.  I may try putting capacitors right on the DIN
> connectors on the back panel of my (homebrew) enclosure.
>
> Doug
> NA1DB
>
> At 07:52 AM 11/23/99 , you wrote:
> >Hi Dough,
> >         I have been posting to the DSP List but something is preventing my
> >messages from being reflected.
> >         All I wanted to make known is that the 144.39 spur is repeated every
> >3.072MHz, I could not find other harmonics so I suppose 3.072MHz is the
> >fundamental. The 47th. harm. just falls very near the APRS freq. (should
> >be 144.384) and its brothers extend well above 400MHz!!.
> >         Now, what is clocking at 3.072MHz into the EVM?
> >
> >         73 de Nando, CX6DD.
>
>
> ---
> You are currently subscribed to dsp as: FORRERJ@PEAK.ORG
> To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
>
>


---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 45. [dsp] Re: EVM Spurious Output

From: "Steven R. Bible" <srbible@gate.net>
Date: Tue, 23 Nov 1999 17:35:12 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-51613-1999.11.23-16.49.12--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

----- Original Message -----
From: Diggs, Steve <Diggs@daugherty.com>
To: TAPR DSP Special Interest Group <dsp@lists.tapr.org>
Sent: Tuesday, November 23, 1999 8:52 AM
Subject: [dsp] Re: EVM Spurious Output


> This discussion thread is of special interest to me, because I am
assembling
> my TAPR 56002 Kit right now. It would seem that the enclosure would
provide
> an effective RF shield, specially if the case is properly grounded.
>
> Also, a question regarding an individual part in the TAPR kit. When I
> installed the DB-9 on the 56002 main board, (Step 2) I noticed it does
not
> have the soldered-in screw anchors like the DB-9 for the ICE port has.
These
> anchors are on the back side of the connector; where the ICE connector
has
> the solder anchors, the second DB-9 only has nuts. Even if they aren't
> needed on the second DB-9, shouldn't the bolts that a DB-9 cable screw
into
> be included? Or am I just a hopeless whiner? <grin>

Steve, you are really leaving yourself open here :-).

You're the first to mention this, but I'll bet we didn't think of
including
the screws in the kit.  Two 4-40 by 3/8" screws and two 4-40 nuts will
work.
I can send you some if you like.  Just let me know.

- Steve

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 46. [dsp] Re: EVM Spurious Output

From: "Mike Murphree, N4CNW" <n4cnw@mindspring.com>
Date: Wed, 24 Nov 1999 01:51:39 -0600
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Cc: <diggs@daugherty.com>
Message-ID: <LYR3532-51672-1999.11.24-02.05.18--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> Subject: Re: EVM Spurious Output
> From: "Diggs, Steve" <Diggs@daugherty.com>
> Date: Tue, 23 Nov 1999 07:52:50 -0600
> X-Message-Number: 1
>
> This discussion thread is of special interest to me, because I am
assembling
> my TAPR 56002 Kit right now. It would seem that the enclosure would
provide
> an effective RF shield, specially if the case is properly grounded.

Unfortunately this is only half the problem.  The case does an adequate job suppressing the *radiated* emissions, but does little to suppress the *conducted* emissions from the EVM board on the control, signal, and power lines.  In some quick informal tests that I did a few months ago (before our household move), the power leads seem to be some of the worst offenders. Since the power doesn't come directly out with the EVMRI, some ferrites could be easily added between the EVM power connector and the back panel power connector on the EVMRI.  The rest are much more difficult, as ideally each signal should be decoupled to the chassis with a capacitor, or filtered with a ferrite.  There are some usually expensive connectors that
contain internal ferrites to solve EMI problems (for those who do not design properly for EMI in the first place) and snap-on ferrites that will help some
too. The problem is that the EVM was never designed to be a FCC certified device and we have to find a way to deal with its shortcomings.

73
Mike N4CNW (whose last flight h/w passed EMI tests 1st time, yeah!)

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

# December 1999

Original source file: dsp.9912
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/dspsig/mail_archive/dsp.9912

## 1. [dsp] 56002EVM + FT-847 + 9k6 G3RUH

From: Mike73@aol.com
Date: Mon, 6 Dec 1999 07:12:22 EST
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-53531-1999.12.06-06.26.59--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Howdy,

I'm having some problems connecting to KO-25 and UO-22. I'm sure it's deviation on the uplink. Anyone using this setup? In g3ruh.asm, what value do you have 0LEVEL SET adjusted to? Are you using the standard TAPR RI box with 1K TX pots? My old klunky deviation meter says I'm light (~2KHz) but I'm beggining to doubt its readings. Any info would be helpful. FYI, downlink eff is very good @ 95% + without doing any tweaking yet.

73,
Mike, N1JEZ
AMSAT #29649
Local Area Coordinator
"A closed mouth gathers no feet."

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 2. [dsp] RE: dsp digest: December 06, 1999

From: "Alan Biddle" <APBIDDLE@att.net>
Date: Tue, 7 Dec 1999 14:12:29 -0000
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-53734-1999.12.07-08.27.05--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Mike,

I use the DSP-2232, but otherwise I have the same equipment.  If you have a scope handy, check the drive level.  For 9600 baud, you should see about 3.0 Vpp.  This give 3.0 KHz deviation, and good uplink at my station.  Note that this is about 150% of the drive limit in the manual.  I ran this by Yaesu tech support a year ago.  They said there was no problem with the higher level.  After a year, no problems, and no smoke.  BTW, if you want to do 1200 baud, use 60 mV.  Since both are off by a factor of 1.5, I wonder if somebody left out a SQRT(2) in posting the numbers?

Alan
WA4SCA

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 3. [dsp] Re: EVM + FT-847 @9k6

From: Mike73@aol.com
Date: Tue, 7 Dec 1999 11:13:04 EST
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-53751-1999.12.07-10.27.49--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

In a message dated 12/7/99 9:13:48 AM Eastern Standard Time, APBIDDLE@att.net writes:

> I use the DSP-2232, but otherwise I have the same equipment.  If you have a
>  scope handy, check the drive level.  For 9600 baud, you should see about 3.0
>  Vpp.  This give 3.0 KHz deviation, and good uplink at my station.  Note that
>  this is about 150% of the drive limit in the manual.  I ran this by Yaesu
>  tech support a year ago.  They said there was no problem with the higher
>  level.  After a year, no problems, and no smoke.  BTW, if you want to do
>  1200 baud, use 60 mV.  Since both are off by a factor of 1.5, I wonder if
>  somebody left out a SQRT(2) in posting the numbers?

Hi Alan,

This is exactly what I'm seeing! I was beginning to doubt my test gear. On
the 56002EVM I needed to remove the 1K xmit level pot and I set the TX level
in the G3RUH code to .9 for ~2.75 KHz deviation.

I wonder if the guys at Yaesu who spec'd the data port are the same guys who
did the NASA Mars Orbiter stuff??? <grin>

73,
Mike, N1JEZ
AMSAT #29649
Local Area Coordinator
"A closed mouth gathers no feet."

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 4. [dsp] Re: 56002EVM + FT-847 + 9k6 G3RUH

From: n4cnw@mindspring.com
Date: Tue, 07 Dec 1999 16:18:53 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Cc: mike73@aol.com
Message-ID: <LYR3532-53777-1999.12.07-15.33.24--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>Subject: 56002EVM + FT-847 + 9k6 G3RUH
>From: Mike73@aol.com
>Date: Mon, 6 Dec 1999 07:12:22 EST

>Howdy,

>I'm having some problems connecting to KO-25 and UO-22. I'm sure it's
>deviation on the uplink. Anyone using this setup? In g3ruh.asm, what
>value do you have 0LEVEL SET adjusted to? Are you using the standard
>TAPR RI box with 1K TX pots? My old klunky deviation meter says I'm >light (~2KHz) but I'm beggining to
 doubt its readings. Any info would
>be helpful. FYI, downlink eff is very good @ 95% + without doing any
>tweaking yet.

Mike,

Your observations sound similar to mine.  I tried to make the TAPR
RI work with my FT-847 a few weeks ago. Deviation in stock form was
very low. I then plugged the output plug from the back interface board
into the headphones jack on the EVM.  This added about 3dB of output
plus was able to drive the 1K pots better than the line level outputs.
I also adjusted the control values in the software to their maximums
but deviation is still on the low side and possibly has some
distortion as well. From conversations with other hams, I believe
the optimum levels required for the FT-847 FM data port are about
50 percent higher than shown in the manual.  I hope to get back to
this project before too long.

73
Mike N4CNW


---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 5. [dsp] Re: 56002EVM + FT-847 + 9k6 G3RUH

From: "Steven R. Bible" <srbible@gate.net>
Date: Thu, 9 Dec 1999 18:01:48 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-54353-1999.12.09-17.16.30--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

[snip]

> Your observations sound similar to mine.  I tried to make the TAPR
> RI work with my FT-847 a few weeks ago. Deviation in stock form was
> very low. I then plugged the output plug from the back interface board
> into the headphones jack on the EVM.  This added about 3dB of output
> plus was able to drive the 1K pots better than the line level outputs.
> I also adjusted the control values in the software to their maximums
> but deviation is still on the low side and possibly has some

> distortion as well. From conversations with other hams, I believe
> the optimum levels required for the FT-847 FM data port are about
> 50 percent higher than shown in the manual.  I hope to get back to
> this project before too long.

This is very interesting.  One, the FT-847 needing 3 vp-p, that's
incredible!  The IC-821 only needs 1 vp-p.

Also, connecting to the EVM's HDPHONE vice OUT line.  I looked at the
EVM schematics and the major difference is that the OUT in decoupled
with capacitors and the HDPHONE is not, only resistors.  Did you have to
changing anything in the G3RUH.ASM program to redirect the output to
HDPHONE?

I'd like to include this information in the EVM Getting Started Manual.

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 6. [dsp] Re: 56002EVM + FT-847 + 9k6 G3RUH

From: John Ackermann <jra@febo.com>
Date: Thu, 09 Dec 1999 19:13:54 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-54368-1999.12.09-18.28.35--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Steve, I seem to remember from previous postings here that the
headphone output floats a couple of volts above ground, which could
cause some interesting interface issues.

John

> [snip]
>
> > Your observations sound similar to mine.  I tried to make the TAPR
> > RI work with my FT-847 a few weeks ago. Deviation in stock form was
> > very low. I then plugged the output plug from the back interface board
> > into the headphones jack on the EVM.  This added about 3dB of output
> > plus was able to drive the 1K pots better than the line level outputs.
> > I also adjusted the control values in the software to their maximums
> > but deviation is still on the low side and possibly has some
> > distortion as well. From conversations with other hams, I believe
> > the optimum levels required for the FT-847 FM data port are about
> > 50 percent higher than shown in the manual.  I hope to get back to
> > this project before too long.
>
> This is very interesting.  One, the FT-847 needing 3 vp-p, that's
> incredible!  The IC-821 only needs 1 vp-p.
>
> Also, connecting to the EVM's HDPHONE vice OUT line.  I looked at the
> EVM schematics and the major difference is that the OUT in decoupled
> with capacitors and the HDPHONE is not, only resistors.  Did you have to
> changing anything in the G3RUH.ASM program to redirect the output to
> HDPHONE?
>
> I'd like to include this information in the EVM Getting Started Manual.
>
>
>
> ---
> You are currently subscribed to dsp as: jra@febo.com
> To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 7. [dsp] Re: 56002EVM + FT-847 + 9k6 G3RUH

From: "Steven R. Bible" <srbible@gate.net>
Date: Thu, 9 Dec 1999 19:25:41 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-54369-1999.12.09-18.40.21--lyris.dsp#tapr.org@lists.tapr.org>

Rendered body type: text/plain

Actually, it's is the entire EVM that floats 0.7 volts above ground
because of the diode bridge who's purpose is to protect the EVM from
reverse polarity.

I removed one of the diodes and jumpered across it to remove this
feature.  The other diode protects the EVM.  But now I must pay
attention to the polarity, not a big problem.

So the OUT being decoupled allows the connection to be independent of
the EVM ground, but not so with HDPHONE.  I'd have to look at the
schematic of the rear PCB, but I think we tied all grounds together.
Which could create a problem if one simply moves the mini-stereo phone
plug from OUT to HDPHONE.

- Steve


> -----Original Message-----
> From: bounce-dsp-3222@lists.tapr.org
> [mailto:bounce-dsp-3222@lists.tapr.org]On Behalf Of John Ackermann
> Sent: Thursday, December 09, 1999 7:14 PM
> To: TAPR DSP Special Interest Group
> Subject: [dsp] Re: 56002EVM + FT-847 + 9k6 G3RUH
>
>
> Steve, I seem to remember from previous postings here that the
> headphone output floats a couple of volts above ground, which could
> cause some interesting interface issues.
>
> John
>
>
> > [snip]
> >
> > > Your observations sound similar to mine.  I tried to make the TAPR
> > > RI work with my FT-847 a few weeks ago. Deviation in
> stock form was
> > > very low. I then plugged the output plug from the back
> interface board
> > > into the headphones jack on the EVM.  This added about
> 3dB of output
> > > plus was able to drive the 1K pots better than the line
> level outputs.
> > > I also adjusted the control values in the software to
> their maximums
> > > but deviation is still on the low side and possibly has some
> > > distortion as well. From conversations with other hams, I believe
> > > the optimum levels required for the FT-847 FM data port are about
> > > 50 percent higher than shown in the manual.  I hope to get back to
> > > this project before too long.
> >
> > This is very interesting.  One, the FT-847 needing 3 vp-p, that's
> > incredible!  The IC-821 only needs 1 vp-p.
> >
> > Also, connecting to the EVM's HDPHONE vice OUT line.  I
> looked at the
> > EVM schematics and the major difference is that the OUT in decoupled
> > with capacitors and the HDPHONE is not, only resistors.
> Did you have to
> > changing anything in the G3RUH.ASM program to redirect the output to
> > HDPHONE?
> >
> > I'd like to include this information in the EVM Getting
> Started Manual.
> >
> >
> >
> > ---
> > You are currently subscribed to dsp as: jra@febo.com
> > To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
>
>
>
> ---
> You are currently subscribed to dsp as: SRBIBLE@GATE.NET
> To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
>
>

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 8. [dsp] EVM

From: "Marius Hauki" <Marius.Hauki@datarespons.no>
Date: Fri, 10 Dec 1999 09:09:58 +0100
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-54414-1999.12.10-02.23.58--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Could anyone on the list please update me on where I can
obtain an EVM nowadays. I assume the prices are lower in the states.
What should I expect to pay for the kit with software / hardware ?

Best regards
Marius Hauki

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 9. [dsp] Re: EVM

From: Jeff Davis <jeff@n9avg.org>
Date: Fri, 10 Dec 1999 05:48:55 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-54421-1999.12.10-05.03.43--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Quoting Marius Hauki (Marius.Hauki@datarespons.no) [991210 09:09]:
> Could anyone on the list please update me on where I can
> obtain an EVM nowadays. I assume the prices are lower in the states.
> What should I expect to pay for the kit with software / hardware ?

Marius,

I got mine from http://www.montereytools.com/

$149 plus $15 shipping/handling.

73,
--
jeff davis, n9avg

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 10. [dsp] Re: 56002EVM + FT-847 + 9k6 G3RUH

From: bsmeds@esoc.esa.de
Date: Fri, 10 Dec 1999 13:46:15 +0100
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-54424-1999.12.10-07.03.16--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The 0.7 Volt above ground is only a problem when you share a DC power
supply with other equipment.
I use a 8 V AC power supply that is floating and dedicated to the EVM.
Then it is possible to connect the EVM to other equipent without problems.
Boris Smeds
DJ0EX / SM7GJ

"Steven R. Bible" <srbible@gate.net> on 99-12-10 01:25:41

Please respond to "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>

To:   "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
cc:    (bcc: Boris Smeds/esoc/ESA)
Subject:  [dsp] Re: 56002EVM + FT-847 + 9k6 G3RUH

Actually, it's is the entire EVM that floats 0.7 volts above ground
because of the diode bridge who's purpose is to protect the EVM from
reverse polarity.

I removed one of the diodes and jumpered across it to remove this
feature.  The other diode protects the EVM.  But now I must pay
attention to the polarity, not a big problem.

So the OUT being decoupled allows the connection to be independent of
the EVM ground, but not so with HDPHONE.  I'd have to look at the
schematic of the rear PCB, but I think we tied all grounds together.
Which could create a problem if one simply moves the mini-stereo phone
plug from OUT to HDPHONE.

- Steve


> -----Original Message-----
> From: bounce-dsp-3222@lists.tapr.org
> [mailto:bounce-dsp-3222@lists.tapr.org]On Behalf Of John Ackermann
> Sent: Thursday, December 09, 1999 7:14 PM
> To: TAPR DSP Special Interest Group
> Subject: [dsp] Re: 56002EVM + FT-847 + 9k6 G3RUH
>
>
> Steve, I seem to remember from previous postings here that the
> headphone output floats a couple of volts above ground, which could
> cause some interesting interface issues.
>
> John
>
>
> > [snip]
> >
> > > Your observations sound similar to mine.  I tried to make the TAPR
> > > RI work with my FT-847 a few weeks ago. Deviation in
> stock form was
> > > very low. I then plugged the output plug from the back
> interface board
> > > into the headphones jack on the EVM.  This added about
> 3dB of output
> > > plus was able to drive the 1K pots better than the line
> level outputs.
> > > I also adjusted the control values in the software to
> their maximums
> > > but deviation is still on the low side and possibly has some
> > > distortion as well. From conversations with other hams, I believe
> > > the optimum levels required for the FT-847 FM data port are about
> > > 50 percent higher than shown in the manual.  I hope to get back to
> > > this project before too long.
> >
> > This is very interesting.  One, the FT-847 needing 3 vp-p, that's
> > incredible!  The IC-821 only needs 1 vp-p.
> >
> > Also, connecting to the EVM's HDPHONE vice OUT line.  I
> looked at the
> > EVM schematics and the major difference is that the OUT in decoupled
> > with capacitors and the HDPHONE is not, only resistors.
> Did you have to
> > changing anything in the G3RUH.ASM program to redirect the output to
> > HDPHONE?
> >
> > I'd like to include this information in the EVM Getting
> Started Manual.
> >
> >
> >
> > ---
> > You are currently subscribed to dsp as: jra@febo.com
> > To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
>
>
>
> ---
> You are currently subscribed to dsp as: SRBIBLE@GATE.NET
> To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
>

>

---
You are currently subscribed to dsp as: BSMEDS@ESOC.ESA.DE
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 11. [dsp] French PSK31 for SB 1.05 help file (in .pdf format)

From: Eduardo Jacob <jtpjatae@bicc00.bi.ehu.es>
Date: Fri, 10 Dec 1999 16:36:31 +0100
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-54440-1999.12.10-09.52.11--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

There is a new .pdf file in french translated from the p31sbw105 help file by Maurice F6IIE. It's available as:

ftp://det.bi.ehu.es/pub/ham/psk31/p31sbw105pdf-f.pdf

and

http://www.kender.es/~edu/download/p31sbw105pdf-f.pdf

Eduardo/EA2BAJ

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 12. [dsp] Re: 56002EVM + FT-847 + 9k6 G3RUH

From: n4cnw@mindspring.com
Date: Fri, 10 Dec 1999 12:23:23 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Cc: n7hpr@tapr.org, jra@febo.com
Message-ID: <LYR3532-54458-1999.12.10-11.38.02--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>This is very interesting.  One, the FT-847 needing 3 vp-p, that's
>incredible!  The IC-821 only needs 1 vp-p.

Was typical before 9600 bps - ready radios became the norm.  I think
the G3RUH modem would output about 4 Vpp.  A simple op-amp stage
would solve the problem but require some mods to be made.

>Also, connecting to the EVM's HDPHONE vice OUT line.  I looked at the
>EVM schematics and the major difference is that the OUT in decoupled
>with capacitors and the HDPHONE is not, only resistors.  Did you have
>to changing anything in the G3RUH.ASM program to redirect the output
> to HDPHONE?

Look in the data sheet that comes with the EVM for the Crystal CODEC.
There is some additional gain on the headphone output.

>Steve, I seem to remember from previous postings here that the
> headphone output floats a couple of volts above ground, which could
> cause some interesting interface issues.

Will have to check that, but I'm using an isolated power supply to
drive the EVM, so it should be of no consequence.

>So the OUT being decoupled allows the connection to be independent of
> the EVM ground, but not so with HDPHONE.  I'd have to look at the
> schematic of the rear PCB, but I think we tied all grounds together.
> Which could create a problem if one simply moves the mini-stereo
> phone plug from OUT to HDPHONE.

That's what I thought it was as well.  Could create some noise

problems if they are.

The other task I want to tackle is putting together an EMI suppression
kit for the EVM RI.  It's a pretty noisy (RF) beast!

73
Mike N4CNW
EM64ps

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 13. [dsp] EVM56002 Line/Phone Output Levels, Coupling Technique and Distortion Performance

From: "Thomas M. Alldread" <tma@mail.island.net>
Date: Fri, 10 Dec 1999 12:37:01 -0800
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-54483-1999.12.10-14.53.56--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Seasons Greetings to All on this List:

Re:

> > Your observations sound similar to mine.  I tried to make the TAPR
> > RI work with my FT-847 a few weeks ago. Deviation in stock form was
> > very low. I then plugged the output plug from the back interface board
> > into the headphones jack on the EVM.  This added about 3dB of output
> > plus was able to drive the 1K pots better than the line level outputs.
> > I also adjusted the control values in the software to their maximums
> > but deviation is still on the low side and possibly has some
> > distortion as well. From conversations with other hams, I believe
> > the optimum levels required for the FT-847 FM data port are about
> > 50 percent higher than shown in the manual.  I hope to get back to
> > this project before too long.
>

        Last Spring I encountered and later discovered the reason for a
limitation of the 'Line' output levels from my EVM56002. I modified my
home brew EVMRI to utilize the 'Phones' output with transformer
coupling. Finally I did two tone IMD tests to determine the audio
performance for both the 'Line' and transformer coupled 'Phones'
outputs. This information, which you may find of interest, may be found
in the TAPR DSP mailing list 9903/9904 archives within the following ftp
files under the subjects given.

ftp://ftp.tapr.org/software_lib/dsp/dsp/mail_archive/dsp.9903
Subject: [dsp] ???EVM56002 CODEC Output Levels???
Subject: [dsp] EVM CODEC Output Level Limitation

ftp://ftp.tapr.org/software_lib/dsp/dsp/mail_archive/dsp.9904
Subject:EVM 'Phones' vs 'Line' Outputs Performance Comparisons

        At the time I encountered difficulties sending formatted test results
tables through the mailing list server and I again apologize for the
duplication of the final posting. As I never did achieve a properly
formatted posting if anyone wants a copy of the test results I am
willing to send it as an attachment by direct email.

        BTW if you find that you need a program for testing your EVM interface
you may find the TestTone program (which can be downloaded from the TAPR
DSP 56002 software site) useful.

73 & Enjoy
Tom, VE7TMA
tma@mail.island.net

---
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To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 14. [dsp] RE: EVM

From: "Diggs, Steve" <Diggs@daugherty.com>
Date: Fri, 10 Dec 1999 16:31:17 -0600
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-54499-1999.12.10-16.47.18--lyris.dsp#tapr.org@lists.tapr.org>

Rendered body type: text/plain

Contrary to some recent messages, Monterey Tools has not been able to
provide EVM kits for a month or so, due to being purchased and moved. I got
mine from http://www.wyle.com for $174 including Georgia Tax and shipping.
All other prices were significantly higher than that. Wyle told me that
Motorola told <them> that they were about out of 56002 EVM kits, and that it
would take 9-12 weeks to build more.

Regards,
Steve Diggs, W4EPI

-----Original Message-----
From: Marius Hauki [mailto:Marius.Hauki@datarespons.no]
Sent: 12/10/1999 3:10 AM
To: TAPR DSP Special Interest Group
Subject: [dsp] EVM


Could anyone on the list please update me on where I can
obtain an EVM nowadays. I assume the prices are lower in the states.
What should I expect to pay for the kit with software / hardware ?

Best regards
Marius Hauki




---
You are currently subscribed to dsp as: Diggs@daugherty.com
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 15. [dsp] RE: EVM

From: "Steven R. Bible" <srbible@gate.net>
Date: Fri, 10 Dec 1999 19:17:40 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-54514-1999.12.10-18.32.25--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Negotiate with these distributors.  I did with Newark some years ago.
They wanted more that $149.00 and I told them that was not the price
Motorola was selling them for.  Tell the salesperson what you will pay.
If they say no, then move on to the next distributor.

DSP56002EVM's cost $149.00, no more.  Don't let them foll you into the
price being higher.  These are old technology and there is very little
cost asside from parts.  The NRE has long been recovered.

Besides, Motorola does not make them, they contract out the assembly.
It is direct between the contract manufacture and distributor.

Don't be taken.  You don't have to pay their first price offered.


- Steve


> -----Original Message-----
> From: bounce-dsp-3222@lists.tapr.org
> [mailto:bounce-dsp-3222@lists.tapr.org]On Behalf Of Diggs, Steve
> Sent: Friday, December 10, 1999 5:31 PM
> To: TAPR DSP Special Interest Group
> Subject: [dsp] RE: EVM
>
>
> Contrary to some recent messages, Monterey Tools has not been able to
> provide EVM kits for a month or so, due to being purchased
> and moved. I got
> mine from http://www.wyle.com for $174 including Georgia Tax
> and shipping.
> All other prices were significantly higher than that. Wyle
> told me that
> Motorola told <them> that they were about out of 56002 EVM
> kits, and that it
> would take 9-12 weeks to build more.

> 
> Regards,
> Steve Diggs, W4EPI
> 
> -----Original Message-----
> From: Marius Hauki [mailto:Marius.Hauki@datarespons.no]
> Sent: 12/10/1999 3:10 AM
> To: TAPR DSP Special Interest Group
> Subject: [dsp] EVM
> 
> 
> Could anyone on the list please update me on where I can
> obtain an EVM nowadays. I assume the prices are lower in the states.
> What should I expect to pay for the kit with software / hardware ?
> 
> Best regards
> Marius Hauki
> 
> 
> 
> 
> ---
> You are currently subscribed to dsp as: Diggs@daugherty.com
> To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
> 
> ---
> You are currently subscribed to dsp as: SRBIBLE@GATE.NET
> To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
> 
> 


---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 16. [dsp] EVM spurious output, take 2

From: Rich Mulvey <mulveyr@iname.com>
Date: Sun, 12 Dec 1999 22:25:36 -0500 (EST)
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-54889-1999.12.12-21.40.46--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Has anyone followed up on the thread a few weeks ago regarding the problem with
a spur on 144.390MHz?  I'd tried adding some ferrites to the data and power
leads, to no avail.  I'd really like to use the box on APRS, too.  :-)

- Rich


---
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To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 17. [dsp] RE: EVM

From: "Marius Hauki" <Marius.Hauki@datarespons.no>
Date: Mon, 13 Dec 1999 09:40:21 +0100
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-54928-1999.12.13-02.54.34--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Thanks for the tip!
I will check more distributors .

73 de LA9EEA

> Negotiate with these distributors.  I did with Newark some years ago.
> They wanted more that $149.00 and I told them that was not the price
> Motorola was selling them for.  Tell the salesperson what you will pay.
> If they say no, then move on to the next distributor.
> 
> DSP56002EVM's cost $149.00, no more.  Don't let them foll you into the
> price being higher.  These are old technology and there is very little
> cost asside from parts.  The NRE has long been recovered.
> 
> Besides, Motorola does not make them, they contract out the assembly.
> It is direct between the contract manufacture and distributor.
> 
> Don't be taken.  You don't have to pay their first price offered.

> 
> - Steve
> 
> > -----Original Message-----
> > From: bounce-dsp-3222@lists.tapr.org
> > [mailto:bounce-dsp-3222@lists.tapr.org]On Behalf Of Diggs, Steve
> > Sent: Friday, December 10, 1999 5:31 PM
> > To: TAPR DSP Special Interest Group
> > Subject: [dsp] RE: EVM
> > 
> > 
> > Contrary to some recent messages, Monterey Tools has not been able to
> > provide EVM kits for a month or so, due to being purchased
> > and moved. I got
> > mine from http://www.wyle.com for $174 including Georgia Tax
> > and shipping.
> > All other prices were significantly higher than that. Wyle
> > told me that
> > Motorola told <them> that they were about out of 56002 EVM
> > kits, and that it
> > would take 9-12 weeks to build more.
> > 
> > Regards,
> > Steve Diggs, W4EPI
> > 
> > -----Original Message-----
> > From: Marius Hauki [mailto:Marius.Hauki@datarespons.no]
> > Sent: 12/10/1999 3:10 AM
> > To: TAPR DSP Special Interest Group
> > Subject: [dsp] EVM
> > 
> > 
> > Could anyone on the list please update me on where I can
> > obtain an EVM nowadays. I assume the prices are lower in the states.
> > What should I expect to pay for the kit with software / hardware ?
> > 
> > Best regards
> > Marius Hauki
> > 
> > 
> > 
> > 
> > 
> > ---
> > You are currently subscribed to dsp as: Diggs@daugherty.com
> > To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
> > 
> > ---
> > You are currently subscribed to dsp as: SRBIBLE@GATE.NET
> > To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
> > 
> > 
> 
> ---
> You are currently subscribed to dsp as: MARIUS@DATARESPONS.NO
> To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

--


------------------------------------------------------------
Marius Hauki                    Data Respons AS
Product Manager                 Sandviksveien 26
                                P.O. Box 489
                                N-1322 Hoevik
Dir.Ph.  :+47 67 11 20 16       Norway
phone    :+47 67 11 20 00
fax      :+47 67 11 20 50        mailto:marius@datarespons.no
Cellular :+47 90 05 16 66        http://www.datarespons.no
------------------------------------------------------------


---
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## 18. [dsp] Re: EVM spurious output, take 2

From: Douglas Braun <doug.braun@intel.com>
Date: Mon, 13 Dec 1999 10:11:51 -0500

To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-54961-1999.12.13-09.27.00--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Mine's still got the problem, and I have had no time to deal with it.
Keep in mind that clamp-on ferrites only suppress common-mode signals.
They did not make a huge difference for me, either.  I plan to solder
caps from each signal to ground right at the DIN connectors on the
back of my box.

Doug
NA1DB


At 10:25 PM 12/12/99 , you wrote:
>Has anyone followed up on the thread a few weeks ago regarding the problem with
>a spur on 144.390MHz?  I'd tried adding some ferrites to the data and power
>leads, to no avail.  I'd really like to use the box on APRS, too.  :-)
>
>- Rich
>
>
>---
>You are currently subscribed to dsp as: doug.braun@intel.com
>To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org


---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 19. [dsp] Re: dsp digest: December 13, 1999

From: "Marcelo Puhl" <mark@plug-in.com.br>
Date: Tue, 14 Dec 1999 11:11:06 -0200
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-55108-1999.12.14-07.24.54--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>
> Subject: Re: EVM spurious output, take 2
> From: Douglas Braun <doug.braun@intel.com>
> Date: Mon, 13 Dec 1999 10:11:51 -0500
> X-Message-Number: 2
>
> Mine's still got the problem, and I have had no time to deal with it.
> Keep in mind that clamp-on ferrites only suppress common-mode signals.
> They did not make a huge difference for me, either.  I plan to solder
> caps from each signal to ground right at the DIN connectors on the
> back of my box.
>
> Doug
> NA1DB
>

Maybe a 10 pF capacitor in the cristal circuit move down the spurious ...



Marcelo Puhl
mark@plug-in.com.br
-----------------------------------------
Get paid to surf the WEB !
Ganhe dinheiro enquanto surfa na Internet !
http://alladvantage.com/go.asp?refid=DTJ608
-----------------------------------------

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 20. [dsp] Speaking of the EVM and APRS....

From: "Mark L. Hammond" <hammond@surrealnet.net>
Date: Tue, 14 Dec 1999 12:59:39 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-55145-1999.12.14-12.15.33--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Is there APRS code for the EVM?  I don't seem to have any on my system here...

Thanks and 73,



Mark L. Hammond  [KC4EBR]


---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 21. [dsp] Re: Speaking of the EVM and APRS....

From: "Mark L. Hammond" <hammond@surrealnet.net>
Date: Tue, 14 Dec 1999 13:05:31 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-55147-1999.12.14-12.20.56--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Oh...just dawned on me.  Maybe it just uses the 1200 baud fsk code.

Shows you how much attention I have been giving to radio lately ;-)

Mark

At 12:59 PM 12/14/99 -0500, you wrote:
>Is there APRS code for the EVM?  I don't seem to have any on my system here...
>
>Thanks and 73,
>
>
>
>Mark L. Hammond  [KC4EBR]
>
>
>---
>You are currently subscribed to dsp as: hammond@surrealnet.net
>To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
>


Mark L. Hammond  [KC4EBR]


---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 22. [dsp] Re: Speaking of the EVM and APRS....

From: Douglas Braun <doug.braun@intel.com>
Date: Tue, 14 Dec 1999 13:49:57 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-55176-1999.12.14-13.05.35--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 01:05 PM 12/14/99 , you wrote:
>Oh...just dawned on me.  Maybe it just uses the 1200 baud fsk code.
>
>Shows you how much attention I have been giving to radio lately ;-)
>
>Mark

I tried WinAPRS with my EVM, and it seemed to work fine.
Naturally, you set WinAPRS to KISS mode.

My only complaint about the setup is that WinAPRS
handles some of the APRS parameters in different
ways for KISS vs. "normal" TNCs, and it is sort of
confusing.

Doug
NA1DB


---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 23. [dsp] Re: Speaking of the EVM and APRS....

From: "Mark L. Hammond" <hammond@surrealnet.net>
Date: Tue, 14 Dec 1999 14:08:21 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-55178-1999.12.14-13.23.54--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Thanks for the comments...I've got it running and have printed about 25
stations so far.  Neat stuff.

Oh--if I move my array to the right spot, that 144.390 emission is nearly
gone ;-)

73,

Mark

At 01:49 PM 12/14/99 -0500, you wrote:
>At 01:05 PM 12/14/99 , you wrote:
> >Oh...just dawned on me.  Maybe it just uses the 1200 baud fsk code.
> >
> >Shows you how much attention I have been giving to radio lately ;-)
> >
> >Mark
>
>I tried WinAPRS with my EVM, and it seemed to work fine.
>Naturally, you set WinAPRS to KISS mode.
>
>My only complaint about the setup is that WinAPRS
>handles some of the APRS parameters in different
>ways for KISS vs. "normal" TNCs, and it is sort of
>confusing.
>
>Doug
>NA1DB
>
>
>---
>You are currently subscribed to dsp as: hammond@surrealnet.net
>To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org


Mark L. Hammond  [KC4EBR]


---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 24. [dsp] Re: Speaking of the EVM and APRS....

From: "PAT McGRATH" <patricio@cyberg8t.com>
Date: Tue, 14 Dec 1999 13:35:04 -0800
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-55191-1999.12.14-15.50.01--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

What array?

>
> Oh--if I move my array to the right spot, that 144.390 emission is nearly
> gone ;-)
>
> 73,
>
> Mark



---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 25. [dsp] Re: Speaking of the EVM and APRS....

From: "Mark L. Hammond" <hammond@surrealnet.net>
Date: Tue, 14 Dec 1999 17:07:36 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-55194-1999.12.14-16.23.01--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Sorry--looks like I'm speaking in riddles.

My primary interest is in satellite communications.  My EVM is connected to
my TS-790A, which is connected to my homebrew satellite array, or antennas,
and trackbox.  By moving my array relative to my shack (pointing it towards
or away from it), I can increase or decrease the relative strength of the
emission on that frequency.

73,

Mark

At 01:35 PM 12/14/99 -0800, you wrote:
>What array?
>
> >
> > Oh--if I move my array to the right spot, that 144.390 emission is nearly
> > gone ;-)
> >
> > 73,
> >
> > Mark


Mark L. Hammond  [KC4EBR]


---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 26. [dsp] Re: Speaking of the EVM and APRS....

From: "Ken Johnson" <vk7krj@southcom.com.au>
Date: Thu, 16 Dec 1999 01:03:56 +1100
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-55283-1999.12.15-08.59.04--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Mark- one of the main ways interference gets out of the shack is via the
coax braid. Once out of the building, it is radiated by the braid, picked up
by the antenna(s) and duly presented to the receiver. A (sometimes!)
effective way of cutting it down is with ferrites on the coax where it exits
the shack- I found the ones salvaged from old computer power supplies to
work ok. It took a 20 over 9 birdie on 14.230 (sstv) down to just audible.
Not sure how it will go at vhf though.

Cheers, Ken,vk7krj
vk7krj@southcom.com.au
----- Original Message -----
From: Mark L. Hammond <hammond@surrealnet.net>
To: TAPR DSP Special Interest Group <dsp@lists.tapr.org>
Sent: 1999-December-15, Wed 9:07
Subject: [dsp] Re: Speaking of the EVM and APRS....


> Sorry--looks like I'm speaking in riddles.
>
> My primary interest is in satellite communications.  My EVM is connected
to
> my TS-790A, which is connected to my homebrew satellite array, or
antennas,
> and trackbox.  By moving my array relative to my shack (pointing it
towards
> or away from it), I can increase or decrease the relative strength of the
> emission on that frequency.
>
> 73,
>
> Mark
>
> At 01:35 PM 12/14/99 -0800, you wrote:
> >What array?
> >
> > >
> > > Oh--if I move my array to the right spot, that 144.390 emission is
nearly
> > > gone ;-)
> > >
> > > 73,

> > >
> > > Mark
>
>
> Mark L. Hammond  [KC4EBR]
>
>
> ---
> You are currently subscribed to dsp as: vk7krj@southcom.com.au
> To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
>

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 27. [dsp] FS or FT: Intel386 EX Embedded Microprocessor Evaluation Boards, PN EV386EXBRD

From: "Tom Scott" <tscott@eni.net>
Date: Wed, 15 Dec 1999 23:38:50 -0800
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-55411-1999.12.16-01.54.04--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

In order to help offset my next ham purchase, I wonder if there is anyone
out there who could make use of one or more  Intel386 EX Embedded
Microprocessor Evaluation Boards, PN EV386EXBRD. I have three brand new with
documentation and software. They would fit in a small radio chassis. They
are approximately 5.5" square.

Quoting the manual, the boards come with "an Intel boot block (256x16 or
512x8) flash chip on board, and a 532256-7 DRAM memory simm. They also
include 2 serial ports, a PC104 connector, a peripheral connector, and room
for 256K bytes of SRAM. I can fax you some specs, schematics and board
layout diagram if you like.

I think these went for several hundred dollars new, but if someone has a
project that could use these, I can let them go very cheaply, make me an
offer.

Forgive me if this seems too off-topic, but this group seems to do a lot of
experimenting, and I thought someone here might be interested.

Please reply off-list.

- Tom

---
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## 28. [dsp] Re: EVM Win debugger

From: "Bjoern Stokke" <bstokke@c2i.net>
Date: Thu, 16 Dec 1999 11:39:54 +0100
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-55417-1999.12.16-04.55.24--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

My Windows EVM 56k rev.3.20 (Domain) debugger refuses to accept
the hex symbol ($) from the keyboard.
OS is Win 98.
Have to use the Dos version EVM56k rev.1.05 in order to
run programs loaded to the flash eprom.
Any hints?


Bjoern Stokke LA5ZL
KO-25
e.mail: bstokke@c2i.net


---
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## 29. [dsp] New PSK31 program

From: Moe Wheatley <ae4jy@mindspring.com>
Date: Thu, 16 Dec 1999 20:39:23 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-55518-1999.12.16-19.55.28--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I posted a new Windoze Soundcard based PSK31 terminal program called "WinPSK"
at:

http://www.mindspring.com/~ae4jy/winpsk.htm

This was sort of a "science project" I've been working on and off of for the
last year in order to gain some more experience in DSP and Windows programming.

It's not full featured but is well documented and I think could be useful as
a starting point for other programs or just as a learning tool.  All the
VC++6.0 project source code is there(for better or worse) as well as a
fairly descriptive technical discussion of design decisions and implementations.

I would appreciate any feedback on the technical descriptions since I'm a
bit out of my element here.  Please let me know of any mis-information or
outright lies that may be in the documentation ;>(

It doesn't have a lot of HF air time on it but it seems to do OK in the AWGN
simulator.  Wouldn't trust it yet for mission critical use.

It may find some use just as a PSK31 signal analyzer due to it's fairly high
resolution spectral display and assorted other signal views.

Hope this is of some interest.
73's
Moe, AE4JY

---
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## 30. [dsp] ae4jy website down

From: Moe Wheatley <ae4jy@mindspring.com>
Date: Sat, 18 Dec 1999 09:44:27 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-55778-1999.12.18-09.00.37--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi all,
I didn't realize that my el-cheapo web site is only good for 225Meg xfers
per month.  It hit the limit Friday so the web site is down until next month.
Sorry about that.  If anyone wants to place the WinPSK stuff on their server
please do so and let folks know.
Didn't think there would be this much activity and i don't want to pay for a
commercial site just for this. :>(

If anyone can help please let me know.
Thanks a bunch.
moe, ae4jy
ae4jy@mindspring.com

---
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To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 31. [dsp] winpsk down

From: "Ko Versteeg" <nl9222tv@tref.nl>
Date: Sat, 18 Dec 1999 15:58:24 +0100
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-55780-1999.12.18-09.14.10--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Well that was quick..
the winpsk02 software is hosted now at:
http://leden.tref.nl/~nl9222tv/software.htm
---
excerpt from a previous message :

> Hi all,
> I didn't realize that my el-cheapo web site is only good for 225Meg xfers
> per month.  It hit the limit Friday so the web site is down until next
month.
> Sorry about that.  If anyone wants to place the WinPSK stuff on their
server
> please do so and let folks know.
> Didn't think there would be this much activity and i don't want to pay
for
a
> commercial site just for this. :>(
>
> If anyone can help please let me know.
> Thanks a bunch.
> moe, ae4jy
> ae4jy@mindspring.com

---
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To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 32. [dsp] dsp psk/manchester for 1200 baud packsats?

From: Doug Bade <doug@clecom.com>
Date: Sat, 18 Dec 1999 10:54:33 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-55787-1999.12.18-10.08.57--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Is there a version of dsp psk for these little leo's manchester up, psk
down ? I have been unable to locate any, so I hope someone has done it out
there..... 73, Doug KB8GVQ
                                        Doug Bade
                                          doug@clecom.com

---
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To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 33. [dsp] Re: dsp psk/manchester for 1200 baud packsats?

From: Douglas Braun <doug.braun@intel.com>
Date: Mon, 20 Dec 1999 09:42:47 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-56057-1999.12.20-08.58.06--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

You mean for EVM?  Of course there is.  Look for psk.asm at
http://users.rcn.com/dougbert.

Doug
NA1DB

At 10:54 AM 12/18/99 , you wrote:
>         Is there a version of dsp psk for these little leo's manchester up, psk
>down ? I have been unable to locate any, so I hope someone has done it out
>there..... 73, Doug KB8GVQ
>                                        Doug Bade
>                                          doug@clecom.com
>
>
>---
>You are currently subscribed to dsp as: doug.braun@intel.com
>To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

---
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## 34. [dsp] EVM birdie on 144.390 fixed

From: Rich Mulvey <mulveyr@iname.com>
Date: Mon, 20 Dec 1999 21:37:16 -0500 (EST)
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-56116-1999.12.20-20.53.06--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

So there I was, still trying to eliminate the birdie from the EVM on 144.390,
when I decided it would be easier to remove the EVM from the TAPR box.  I
powered it up, and, lo and behold, my APRS station continues chirping away
happily.

   So, I then grab a length of hookup wire, and jumper between the DB-9 on the
EVM serial port, and the case:  The spur reappears.  Remove it, and the spur is
gone.

   So I then dig up some insulated stand-offs ( Yes, I know the instructions
said that should I have used the ones that came with the EVM, but I didn't. )
Reinstall the EVM, power it up - Viola!  No spur.

   The spur reappears if I hook up a serial cable, and the shield touches the
case.  A little shimming of the standoff, and it's A-OK.

   So, for those of you with the same problem, try digging up the nylon
standoffs, if you haven't already.  They make a difference.  :-)

- Rich

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 35. [dsp] Re: EVM birdie on 144.390 fixed

From: "Gregory Beat" <gregory.beat@mediaone.net>
Date: Mon, 20 Dec 1999 21:28:58 -0600
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-56124-1999.12.20-21.44.31--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Which means ... its best to let the EVM board "float"

GB
----- Original Message -----
From: "Rich Mulvey" <mulveyr@iname.com>
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Sent: Monday, December 20, 1999 8:37 PM
Subject: [dsp] EVM birdie on 144.390 fixed

> So there I was, still trying to eliminate the birdie from the EVM on
144.390,
> when I decided it would be easier to remove the EVM from the TAPR box.  I
> powered it up, and, lo and behold, my APRS station continues chirping away
> happily.
>
> So, I then grab a length of hookup wire, and jumper between the DB-9 on
the
> EVM serial port, and the case:  The spur reappears.  Remove it, and the
spur is
> gone.
>
> So I then dig up some insulated stand-offs ( Yes, I know the
instructions
> said that should I have used the ones that came with the EVM, but I
didn't. )
> Reinstall the EVM, power it up - Viola!  No spur.
>
> The spur reappears if I hook up a serial cable, and the shield touches
the
> case.  A little shimming of the standoff, and it's A-OK.
>
> So, for those of you with the same problem, try digging up the nylon
> standoffs, if you haven't already.  They make a difference.  :-)
>
> - Rich
>
>
>
>
> ---
> You are currently subscribed to dsp as: gregory.beat@mediaone.net
> To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org
>

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 36. [dsp] Re: winpsk down

From: "f1usa" <f1usa@wanadoo.fr>
Date: Mon, 20 Dec 1999 14:40:35 +0100
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-56170-1999.12.21-03.39.25--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi all,

>Well that was quick..
>the winpsk02 software is hosted now at:
>http://leden.tref.nl/~nl9222tv/software.htm

Fine, but the source is missing...

Unfortunatly, this is a very interesting part (sound card programming in
windows)

Is anybody here may hosted the source ?

Many thanks

73 de F1USA, Stephane (Oleron island - France)

---
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To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 37. [dsp] ADC44d and MATLAB/SIMULINK Integration?

From: "Richard Seabrook" <RDS1ELE@mail.bolton.ac.uk>
Date: Tue, 21 Dec 1999 15:03:59 -0000
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-56194-1999.12.21-09.19.14--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I was wondering if anyone on the list has written or has
MATLAB/SIMULINK S-Functions for interfacing the BlueChip
ADC44d  A/DD/A IO card for use with SIMULINK 2.2.

We have 15 of these available here and need to get one working for
an MSc DSP project. Any pointers to S-Function coding for
hardware interfacing would be much appreciated.

Also,

If anyone has a TI C30 EVM or C30 DSK they are no longer using
and want sell or lend I could well be interested...

Regards - Richard Seabrook   ON9BCS/G7JMG

---
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## 38. [dsp] Re: winpsk down

From: "Ko Versteeg" <nl9222tv@tref.nl>
Date: Tue, 21 Dec 1999 20:33:06 +0100
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-56229-1999.12.21-13.49.36--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Stephane,
I am sorry, i will put the source aswell
as the program as soon as possible..
73 DE Ko, NL9222

---
> From: f1usa <f1usa@wanadoo.fr>
> To: TAPR DSP Special Interest Group <dsp@lists.tapr.org>
> Subject: [dsp] Re: winpsk down
> Date: Monday, December 20, 1999 2:40 PM
>
> Hi all,
>
>
> >Well that was quick..
> >the winpsk02 software is hosted now at:
> >http://leden.tref.nl/~nl9222tv/software.htm
>
> Fine, but the source is missing...
>
> Unfortunatly, this is a very interesting part (sound card programming in
> windows)
>
> Is anybody here may hosted the source ?
>
> Many thanks
>
> 73 de F1USA, Stephane (Oleron island - France)
>
>
>
>
>
> ---
> You are currently subscribed to dsp as: nl9222tv@tref.nl
> To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 39. [dsp] Winpsk source code

From: "Ko Versteeg" <nl9222tv@tref.nl>
Date: Tue, 21 Dec 1999 21:53:06 +0100
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-56238-1999.12.21-15.09.38--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Group,

The requested source files for winpsk02
can be found at:
http://members.tripod.lycos.nl/NL9222/programs/psksrc02.zip

or browse around at:
http://members.tripod.lycos.nl/NL9222/software.htm

73 de Ko,
NL9222


---
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## 40. [dsp] Another chance to get a DSP-10 parts kit (September QST)

From: Dan Schultz <n8fgv@amsat.org>
Date: Wed, 22 Dec 1999 05:15:00 -0500
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-56300-1999.12.22-04.30.22--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Having failed to learn my lesson from the first run of kits, I am accepting orders for a second run of kits for the DSP-10 2 meter transceiver. This project was featured in a three part series that was in the September through November QST this fall. This kit will include the circuit board and all parts that mount on the circuit board. It will NOT include the Analog Devices EZ-kit which you will need to order separately for about $90. The Analog Devices part number is ADDS-21XX-EZLITE.

I am estimating that the total cost per kit will be $195 including the PC board and shipping in the USA.  Any excess payment will be refunded to you or donated to the Amsat Phase 3D project as you specify. The exact cost will depend on the number of parts that are ordered and cannot be known at this

time. It is possible that my estimate will be low and you may be asked to send additional money. Price breaks on semiconductors begin at 25 pieces, so if you encourage your friends to order kits your final cost may be less.

We have been offered a 15% discount on printed circuit boards for ordering 10 or more. If you have already ordered your PC board please let me know so that I don't order a second one.  If you already have your PC board the cost will be $155 for the remaining parts and shipping.

You also need to obtain a box and some parts such as microphone connectors and DB-9 plugs which mount off of the PC board. These can be obtained at Digikey and/or Radio Shack. The kit will include the header plugs which connect to their mating connectors on the PC and an adequate supply of crimp terminals. I will also try to get the ferrite beads for EMI suppression and the 17 feedthrough capacitors which are needed for the DSP
enclosure. (The retail price of feedthrough caps is out of sight, I am looking for a good surplus source. I usually buy these at hamfests at 4/$1.00.) I will send a parts list by e-mail to anyone who requests it.

The recommended box is a Hammond 1590F which is available for $27 from Digikey. Digikey's minimum order is $25 and they offer free shipping in the USA if you pay by check or money order. It would not be cost effective for me to order these boxes, the shipping charges to send them to you would eat up any volume discount.

The 10 MHz crystal supplied with your kit will be Digikey part number SE3420 which was recently tested by Bob Larkin and found to cause the transceiver to drift at 58 Hz per degree C at 2 meters. There are better crystals and TCXO's available at higher cost but this has been a major source of delay in shipping out the first run of kits and I am seeking to simplify that part of the process. If you have a better quality 10 MHz frequency reference and don't want a crystal, let me know when you order.

For people outside of the United States I will order the EZ-kit and the box for you if there is some sort of hardship that would prevent you from obtaining these items in your own country. I would prefer that you try to acquire these yourself if you can.

You will need to fabricate an RF tight enclosure for the DSP board from copper clad PC stock as outlined in the October QST article. Please read the QST articles thoroughly before committing to build this transceiver. Bob Larkin's web site at http://www.proaxis.com/~boblark/dsp10.htm also has much up to date information and the software that you will need to download.

You can mail your checks for $195 for each kit to:
Dan Schultz
PO Box 1137
Greenbelt, MD 20768-1137

I WILL ACCEPT ORDERS UNTIL JANUARY 12. AT THAT TIME ORDERS WILL BE CUT OFF AND THE PARTS ORDERS WILL BE TRANSMITTED TO THE VENDORS.

Kit delivery will probably be 4 to 6 weeks after the cutoff date and depends on how many parts are backordered.

Kits for the USA will be sent US priority mail unless you request some other method. All shipments will be insured. I am checking on costs to other countries, if you are outside of the USA please contact me to discuss shipping and customs arrangements.

In the event that parts are backordered, the postmark date on your payment will determine your priority for receiving any parts that are in short supply. In particular the MC145170 PLL chip may be a problem.

Dan Schultz N8FGV

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 41. [dsp] Software HF Channel Simulator needed!

From: "Fernando Carreiro" <fmi@carreiro.com>
Date: Sun, 26 Dec 1999 17:43:14 -0000
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-56761-1999.12.26-12.01.30--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Dear SIG,

Any known where I can get hold of a Software Implementation of a HF Channel Simulator - something that will take a .WAV file as an input and produce another .WAV file output of the input signal distorted by the HF Channel? No need for real-time simulation, just something that will work with data files of some kind and for the audio frequency bandwidth. Hopefully a freeware or shareware implementation that will run on Windows and simulate up to 3 paths, with fading, Doppler spread, Gaussian noise and impulse noise.

I will most grateful for any info that will lead me to such a Software HF Channel Simulator.

Thank you and best regards,
Fernando Carreiro (fmi@carreiro.com)

## 42. [dsp] 56002 Setup with FT736r

From: "Diggs, Steve" <Diggs@daugherty.com>
Date: Sun, 26 Dec 1999 22:59:39 -0600
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Message-ID: <LYR3532-56808-1999.12.26-23.15.33--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I am making steady progress in getting my 56002EVM operative. I am interfacing it with my FT736r. Presently, I am using the FSK1200 modem booted from ROM. My status at this point is:

1. The PTT is fully operational
2. I can decode packets if I connect the audio input to the 56002 to the speaker output. It does NOT work if I connect it to the Data In/Out port on the 736r.
3. I can get a reasonably normal transmitted audio if move the jack which is normally connected to the OUT port on the EVM board to the HEADPHONES port. (Although I haven't connected to anything yet) It produces a very low deviation signal if I connect the jack to the OUTPUT port.
4. If I put an audio loopback cable between IN and OUT on the EVM board, I am able to connect to myself.
5. I have the birdie on 144.39 like everybody else.

By all normal measures of packet performance, the 56002EVM is working normally.

Questions:
1. Will the 56002 work with the Data In/Out port on the 736r?
2. Do I have to diddle the code to optimize it for the 736r? If so, what are the variables that I need to change, and what are the best values for the 736r?
3. Why does this stinkin' yellow light stay on all the time over DWN?
4. My COP light stayed on all the time before I loaded the FSK1200 code. Now it just blinks when I transmit data. Is this the correct operation?
5. Seems like I remember reading somewhere that the two trim pots don't have enough range for some radios. Is this the case here?

Well, that about sums it up. Thanks much for any feedback/help provided!

Regards,
Steve Diggs, W4EPI

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org

## 43. [dsp] Re: 56002 Setup with FT736r

From: Mike73@aol.com
Date: Mon, 27 Dec 1999 08:25:35 EST
To: "TAPR DSP Special Interest Group" <dsp@lists.tapr.org>
Cc: dsp@lists.tapr.org
Message-ID: <LYR3532-56845-1999.12.27-07.44.35--lyris.dsp#tapr.org@lists.tapr.org>
Rendered body type: text/plain

In a message dated 12/27/99 12:01:19 AM Eastern Standard Time,
Diggs@daugherty.com writes:

> Questions:
> 1. Will the 56002 work with the Data In/Out port on the 736r?

Yes

> 2. Do I have to diddle the code to optimize it for the 736r? If so, what are
> the variables that I need to change, and what are the best values for the
> 736r?

Yes, but only input/output. I'm using Doug Braun's code. Change RXGain and TxAttenuate. Right now I'm using RXgain 15.0 and TxAttenuate 2.5. This is on my FT-847. I'll verify with my FT-736R and drop you a line. I first set up my EVM to do 9k6, which is much more critical, with a combination of the multi-turn pots and gain changes in the code. I then set up for 1k2 using just gain changes to the code.

> 3. Why does this stinkin' yellow light stay on all the time over DWN?

Not enough RXGain.

> 4. My COP light stayed on all the time before I loaded the FSK1200 code. Now
> it just blinks when I transmit data. Is this the correct operation?

Yup

> 5. Seems like I remember reading somewhere that the two trim pots don't have
> enough range for some radios. Is this the case here?

No. The trim pot issue has to do mainly with the FT-847 transmit deviation at 9k6. Depending on the age of your 847, it requires different levels to drive it to the "magic 2.75 Khz +/- .25 KHz deviation at 9k6. Eveyone has been looking at modifications to the DSP56002EVM to increase its usuable output. I did the same thing initially to get it running. (I removed the the 1 K output pot).

Recently I got to thinking about how easy it is to deviate the 847 at 1k2 and started looking at why that was compared to 9k6

In the Service Manual I found where it looks like a feedback resistor is being switched in and out around the first OP Amp on the data in line. I will investigate further, but I'm willing to bet that's where a mod could be made to lower the amount of signal needed at 9k6 to deviate correctly.

73,
Mike, N1JEZ
AMSAT #29649
Local Area Coordinator
"A closed mouth gathers no feet."

---
You are currently subscribed to dsp as: lyris.dsp@tapr.org
To unsubscribe send a blank email to leave-dsp-3532K@lists.tapr.org